

**CH2MHILL**

25 March 2004

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SUBJECT: AFCEE 4P F41624-03-D-8595; Task Order 0164
MMR SPEIM/LTM/O&M Program
CDRL #A001E

**Final Fuel Spill-1 2003 Annual System Performance and Ecological Impact
Monitoring Report**

Dear Mr. Davis:

As directed by the Air Force Center for Environmental Excellence, CH2M HILL is hereby distributing copies of the *Final Fuel Spill-1 2003 Annual System Performance and Ecological Impact Monitoring Report* dated March 2004. Enclosed are seven bound copies, one unbound copy and nine compact disc (CD) copies. Copies are also being sent to the appropriate agencies.

If you have any questions or comments, please contact Mr. John Schoolfield at (508) 968-4670, extension 5601.

Sincerely,

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Massachusetts Military Reservation



Final Fuel Spill-1 2003 Annual System Performance and Ecological Impact Monitoring Report

March 2004

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ACRONYMS AND ABBREVIATIONS

AFCEE	Air Force Center for Environmental Excellence
BOD	biological oxygen demand
°C	degrees Celsius
cfs	cubic feet per second
CMR	Commonwealth of Massachusetts Regulations
COC	contaminant of concern
COD	chemical oxygen demand
DEP	Massachusetts Department of Environmental Protection
DO	dissolved oxygen
EDB	ethylene dibromide (1,2-dibromoethane)
ETD	extraction, treatment, and discharge
ft bgs	feet below ground surface
ft msl	feet mean sea level
FS-1	Fuel Spill-1
GAC	granular activated carbon
gpm	gallons per minute
J	estimated value
kg	kilograms
lbs	pounds
MCL	maximum contaminant level
mg/L	milligrams per liter
MMCL	Massachusetts maximum contaminant level
MMR	Massachusetts Military Reservation
mV	millivolts

ACRONYMS AND ABBREVIATIONS

NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity units
ORP	oxidation-reduction potential
pH	hydrogen ion activity
RBC	risk-based concentration
SPEIM	system performance and ecological impact monitoring
SWP	shallow wellpoint
VOC	volatile organic compound
µg/L	micrograms per liter
µS/cm	microsiemens per centimeter

EXECUTIVE SUMMARY

This report is an assessment of the Fuel Spill-1 (FS-1) plume extraction, treatment, and discharge (ETD) system under the system performance and ecological impact monitoring (SPEIM) program. The reporting period for this document covers data collected from 01 May 2002 through 30 April 2003.

The SPEIM program was developed to ensure effective operation of the Air Force Center for Environmental Excellence (AFCEE) groundwater remediation systems at the Massachusetts Military Reservation (MMR). A goal of the SPEIM program is to identify improvements that can be implemented to optimize the performance of the remedial systems and the monitoring network for the groundwater plumes. The contaminant of concern (COC) in the FS-1 plume is ethylene dibromide (EDB). Toluene, thallium, and lead are the COCs in the source area. The SPEIM program is designed to: (1) monitor the changes in the mass, volume, spatial dimension, and chemistry of the EDB plume; (2) evaluate the performance of the treatment system in meeting the FS-1 remedial objectives; (3) assess the impacts of the remedial system on the aquifer and ecological environment; (4) assess human health and ecological risks associated with the FS-1 plume; and (5) monitor changes in the concentrations of COCs in the groundwater underlying the source area.

Fuel Spill-1 Extraction, Treatment, and Discharge System

The FS-1 remedial system was designed as an interim system to capture EDB-contaminated groundwater in the southwestern portion of the plume, and to reduce the discharge of EDB contaminated groundwater to the Quashnet River and associated cranberry bogs ditches. Accordingly, the system was intended to operate until the final FS-1 remedial system was constructed in October 2003. However, on 13 October 2002, mid-way through the reporting period, a fire destroyed the FS-1 treatment plant. Consequently, there was no remedial system in operation during the second half of the reporting period; however, monitoring activities continued throughout the reporting period.

The FS-1 remedial system consisted of one deep groundwater extraction well pumping at 300 gallons per minute (gpm) and a series of shallow wellpoints (SWPs) pumping collectively at 450 gpm. During the reporting period, groundwater was extracted through 103 of the 175 SWPs, which are located downgradient of the deep extraction well. The SWPs captured contaminated groundwater that would have otherwise discharged to the Quashnet River and adjacent cranberry bog ditches. The effluent from the treatment system discharged to the K1 bog through an infiltration trench and to the K2 bog west ditch through a bubbler.

The treatment system processed approximately 120 million gallons of contaminated groundwater from May 2002 through 13 October 2002, when the fire occurred. During the reporting period, an estimated 0.44 kilograms (kg) (0.97 pounds) of EDB were removed from groundwater. A cumulative total of 4.78 kg (10.5 pounds) of EDB have been removed from the FS-1 plume through 13 October 2003, which represents approximately 34 percent of the initial plume mass. Over 1.2 billion gallons of contaminated groundwater have been treated since the remedial system became operational in 1999. The evaluation of data collected between May and October 2002 indicate that the discharge of the remedial system effluent did not result in significant ecological impacts associated with the operation of the groundwater remedial system.

The redesigned FS-1 remedial system will begin operation in October 2003, and is expected to operate for fifteen years (AFCEE 2001). The principal features of the new FS-1 remedial system include: (1) a new treatment plant with three 20,000-lb GAC vessels operated in series to remove EDB from the groundwater while reducing the frequency of carbon changes; (2) the existing extraction well (36EW0005) together with a new extraction well (36EW0001) to remediate the southern portion of the plume and replace the SWP extraction system; (3) the addition of two extraction wells (36EW0007 and 36EW0011) to remediate the central portion of the plume; and (4) the three existing bubblers to discharge the treatment plant effluent to the K1 and K2 bog ditches.

Site Hydrology

A comparison of groundwater elevation data under both stressed (remedial system operating) and unstressed (remedial system not operating) conditions indicates that the direction of groundwater flow is generally south/southwest towards the Quashnet River. The only significant deviation of this flow pattern between pumping and non-pumping conditions occurs in the immediate vicinity of the extraction well.

Surface water flow rates and groundwater discharge calculations indicate that the Quashnet bogs remain an area of significant groundwater discharge. The calculated groundwater discharge rates to the bogs were between 1.76 and 3.24 cubic feet per second (cfs) during the reporting period. Groundwater flow paths determined by evaluating groundwater elevation and piezometric head data indicate that the Quashnet bogs are a groundwater discharge location. The groundwater monitoring locations immediately east and west of the Quashnet bogs exhibited upward flow based on vertical hydraulic gradients. However, the magnitude of this upward flow component decreased when the bogs were flooded, indicating that flooding reduces groundwater discharge to the bogs.

Groundwater Quality

Prior to October 2002, EDB concentrations in groundwater generally declined throughout the plume. After October 2002, the concentration of EDB increased in some groundwater monitoring wells downgradient of the deep extraction well, reflecting the migration of plume mass uncaptured due to remedial system shut down. The overall plume geometry, however, remained essentially unchanged from depictions in previous annual reports.

FS-1 source area groundwater monitoring identified volatile organic compounds associated with refined petroleum products (ethylbenzene, toluene, and total xylene) and one metal (lead). The low concentrations of volatile organic compounds (VOCs) (below their respective maximum contaminant levels) along with their declining concentration

trends, indicate that there is no continuing source for the FS-1 plume and that natural attenuation will continue to decrease concentrations with time. Lead concentrations will also be reduced through chemical precipitation and/or adsorption as the general geochemical environment returns to oxidizing (background) conditions. Of the COCs in the source area, only lead was detected in groundwater above the action level for public water supply systems.

Surface Water Quality

Prior to October 2002, surface water monitoring data indicated the following: (1) EDB was not detected in the surface water in the K1 or K2 bogs ditches, however, EDB-contaminated groundwater continued to discharge in the K6 bog; (2) the discharge of treated groundwater into the K1 bog and K2 bog west ditches moderated the seasonal temperature fluctuations of the surface water in the upper reach of the K2 bog west ditch; (3) discharge of treated groundwater through the bubbler increased surface water dissolved oxygen concentrations in the upper reach of the K2 bog west ditch; and (4) discharge of the treatment plant effluent increased the flow in the K1 bog ditch and the K2 bog west ditch. The monitoring of surface water, both upgradient and downgradient of the effluent discharge points indicates that, with the exception of one pH exceedance, the system was in compliance with the Commonwealth of Massachusetts Surface Water Quality Standards (314 CMR 4.00).

The results of surface water monitoring after October 2002 indicate that the EDB-contaminated groundwater discharged to the K2 bog east ditch and continued to discharge to the K6 bog. However, EDB concentrations in the surface water did not exceed ecological benchmark or screening-level human health risk-based concentrations (RBCs) during the reporting period.

Recommendations

AFCEE presents the following recommendations for the FS-1 SPEIM monitoring program: (1) source area monitoring lead analyses should be changed from total lead to

dissolved lead in order to assess whether the lead concentrations detected are associated with lead adsorbed to sediment particles or if lead exists in the dissolved form; (2) after the new FS-1 remedial system is operational in October 2003, AFCEE recommends groundwater monitoring be returned to pre-October 2002 monitoring frequencies; water level measurements from the three piezometers associated with the Town of Mashpee's ecosystems of concern should remain on a monthly frequency; and surface water monitoring frequencies should return to pre-October 2002 schedules with exception of the K2 bog east ditch locations which should remain on a monthly frequency; (3) after the new treatment plant becomes operational in October 2003, EDB and water quality parameters will be monitored monthly from the treatment plant's combined influent, process water after the granular activated carbon vessels, and effluent; and (4) the monitoring of physicochemical parameters should be eliminated from the treatment plant combined influent and effluent streams.

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1.0 INTRODUCTION

This report is an annual evaluation of the Fuel Spill-1 (FS-1) extraction, treatment, and discharge (ETD) system that is being monitored under the System Performance and Ecological Impact Monitoring (SPEIM) program. This report is presented in support of the Air Force Center for Environmental Excellence (AFCEE) Installation Restoration Program at the Massachusetts Military Reservation (MMR), which is located on Cape Cod ([Figure 1-1](#) and [Figure 1-2](#)). This report was prepared under AFCEE's Environmental Remedial Action Contract Number F41624-01-D-8545, Task Order 0071.

The SPEIM program was developed by AFCEE to ensure effective operation of its groundwater remediation systems at MMR. The principal objectives of the SPEIM program are to cleanup the groundwater contaminant plumes and, through evaluation of the data, identify improvements that can be implemented to optimize the performance of the remedial systems. The SPEIM program is designed to: 1) monitor the changes in the mass, volume, spatial dimension, and general chemistry of the contaminant plumes; 2) evaluate the performance of the treatment systems in meeting the remedial objectives; and 3) assess the impacts of the treatment systems on the aquifer and ecological environment. Where appropriate, the SPEIM program is also designed to assess potential human health and ecological risks associated with the plumes and monitor changes in the concentrations of COCs in the groundwater underlying the source area.

The reporting period for this annual report is 01 May 2002 through 30 April 2003. On 13 October 2002, roughly mid-way through the reporting period, a fire destroyed the FS-1 treatment plant. Although the system was not operational for the remaining portion of the reporting period, data collection activities continued after the fire while a new system was being designed and constructed.

1.1 GENERAL SPEIM APPROACH

The SPEIM program uses a three-part approach to assess the effectiveness of the remedial systems and the potential impacts to surrounding ecosystems. The three

components are: (1) remedial system performance monitoring; (2) treatment plant performance monitoring; and (3) direct impact monitoring.

Remedial system performance monitoring data are used to assess the groundwater extraction systems and their influence on plume characteristics. Plume characteristics, in turn, are evaluated through the collection and interpretation of hydraulic and chemical data from a network of monitoring wells and surface water locations. Further, remedial system performance includes an evaluation of the appropriateness of the hydraulic and chemical monitoring network to determine whether unnecessary sampling locations can be eliminated or more favorably positioned locations should be added to the program. Treatment plant performance is assessed by monitoring the effectiveness of the treatment plant in removing contaminants from extracted groundwater. Potential impacts of the remedial system on local ecosystems are assessed by evaluating the water quality of the treatment system effluent and the water quality and flow rates of surface water downstream of the treatment system discharge. The specifics of the SPEIM program for the FS-1 ETD system are discussed in Section 1.2, following a brief discussion of the FS-1 plume and ETD system (1.1.1 and 1.1.2, respectively).

1.1.1 FS-1 Plume Characteristics

The FS-1 plume ([Figure 1-3](#)) is defined as a contiguous volume of the aquifer where the concentration of the contaminant of concern (COC), ethylene dibromide (EDB), is at or above the safe drinking water standard (i.e., Massachusetts Maximum Contaminant Level [MMCL] of 0.02 micrograms per liter [$\mu\text{g/L}$]). A conceptual model of the FS-1 plume is shown in [Figure 1-4](#). The conceptual model was developed using data collected through March 2003, and is discussed in Section 3.0 of this report.

The FS-1 plume is detached from its source area. The source of the plume is the east and west turnaround areas, northeast of the southern end of the north-south runway ([Figure 1-3](#)). Between 1955 and 1970, EC-121 Super Constellation aircraft of the 551st Airborne Early Warning and Control Wing tested fuel-dump valves in this area. During this testing, the fuel-dump valves were opened and the fuel was allowed to drain onto the

concrete. The exact quantity of fuel released at the FS-1 source area is unknown (HAZWRAF 1998).

The FS-1 plume extends in a southeasterly direction and terminates where it intersects the Quashnet River. As of March 2003, the plume is approximately 6,400 feet long, 450 to 1,200 feet wide, and 35 to 180 feet thick. The estimated volume of contaminated water contained in the plume, as of March 2003, is approximately 1.25 billion gallons, containing 9.4 kilograms (kg) (20.8 pounds [lbs]) of EDB.

1.1.2 FS-1 Remedial System

Remedial Objectives

The remedial objectives for the former FS-1 plume are as follows (AFCEE 2000b):

- Prevent or reduce exposure to groundwater COCs exceeding cleanup standards in groundwater.
- Restore the aquifer to beneficial uses within a reasonable time frame.
- Prevent or reduce worker, recreational youth, and adult wader contact with Quashnet River water containing unacceptable concentrations of EDB and ingestion of fish exposed to Quashnet River water containing unacceptable concentrations of EDB.

These remedial objectives are being met through: (1) the implementation of the FS-1 remedial system; (2) the evaluation of remedial system performance through the SPEIM program; and (3) the implementation of remedial system optimization recommendations.

Initially, to reduce the risks associated with the discharge of EDB-contaminated groundwater to the Quashnet River and bogs, the FS-1 ETD was designed to capture the southwestern portion of the plume, and to reduce the discharge of EDB-contaminated groundwater to the Quashnet River and associated bog ditches. To meet the remedial objectives of the Record of Decision, the final FS-1 remedial system has undergone design changes and a new remedial system is scheduled to be operational in October 2003 (AFCEE 2001). The final FS-1 remedial system design was presented in the *Final Fuel Spill-1 Wellfield Design Report* (AFCEE 2001). The redesigned FS-1 remedial

system will begin operation in October 2003, and is expected to operate for fifteen years (AFCEE 2001). The principal features of the new FS-1 remedial system include: (1) a new treatment plant with three 20,000-lb GAC vessels operated in series to remove EDB from the groundwater while reducing the frequency of carbon changes; (2) the existing extraction well (36EW0005) together with a new extraction well (36EW0001) to remediate the southern portion of the plume and replace the SWP extraction system; (3) the addition of two extraction wells (36EW0007 and 36EW0011) to remediate the central portion of the plume; and (4) the three existing bubbler to discharge the treatment plant effluent to the K1 and K2 bog ditches.

Remedial System

The basic elements of the FS-1 ETD system (prior to October 2002) are shown on [Figure 1-3](#) and consisted of one deep extraction well (36EW0005), 175 shallow well points (SWPs), and a treatment plant with two discharge locations. The deep extraction well (36EW0005) was constructed with a screened interval from -87 to -148 feet below mean sea level and had a design pumping rate of 300 gallons per minute (gpm). The 175 SWPs were located along the eastern edge of the K2 bog, along the northern and western edge of the K6 bog and in the area between the K2 and K6 bogs ([Figure 1-5](#)) and had a total design pumping rate of 450 gpm. Between 01 May and 13 October 2002, the average pumping rate of the deep extraction well was 296 gpm. During the same timeframe, shallow groundwater was extracted from 103 of the 175 SWPs at an average flow rate of 428 gpm.

Prior to October 2002, extracted groundwater was conveyed to the FS-1 treatment plant where EDB was removed using granular activated carbon (GAC). The former treatment system included two 20,000-lb GAC vessels operated in series. A schematic of the process flow diagram for the former FS-1 treatment plant is shown in [Figure 1-6](#).

Treated effluent from the former FS-1 treatment plant was discharged to surface water (K2 bog west ditch) via Bubbler #1 and an infiltration trench along the northern edge of the K1 bog. The locations of these features are shown on [Figure 1-3](#) and [Figure 1-5](#).

There are two additional bubblers (#3 and #4) in the K1 bog; however, they were not utilized during the reporting period. The K2 bog contained an additional bubbler which was not used and subsequently moved to the Coonamessett River as part of the FS-28 remedial system. The bubblers are constructed of 18-inch diameter corrugated metal pipe designed to allow treated effluent to cascade over the side of the pipe thereby increasing the dissolved oxygen (DO) concentration in the effluent prior to discharge to surface water.

1.2 FS-1 SPEIM APPROACH

Details regarding the three SPEIM components specific to FS-1 are presented below.

1.2.1 Remedial System Performance Monitoring

Under SPEIM, remedial system performance monitoring includes both hydraulic and chemical monitoring. In general, hydraulic monitoring is conducted to:

- Understand the groundwater and surface water conditions that potentially affect the geometry or migration of the FS-1 plume.
- Verify the predicted hydraulic performance of the FS-1 remedial system.
- Determine the effects of remedial system impacts on ecosystems of potential concern.
- Optimize system operation.

Hydraulic monitoring for the FS-1 remedial system included measuring groundwater levels at selected monitoring wells on a quarterly frequency. In addition, stream gauging at selected locations was also conducted on a quarterly basis. The locations of these monitoring points are further discussed in Section 2.

In general, chemical monitoring is conducted to:

- Delineate plume boundaries and monitor changes in the spatial distribution of plume COC.
- Identify changes in plume characteristics.

- Calculate mass removed from the plume by the remedial system.
- Monitor the effectiveness of the remedial system.
- Optimize system operations.
- Monitor the water quality of the surface waters of the Quashnet River and associated cranberry bog ditches.

Chemical monitoring of the FS-1 remedial system included collecting water samples from the well and surface water network at variable frequencies. Chemical monitoring also included source area monitoring for source area COCs: toluene, thallium, and lead (AFCEE 2000b).

1.2.2 Treatment Plant Performance Monitoring

FS-1 treatment plant performance monitoring includes flow rate monitoring and chemical monitoring. The results of treatment plant performance monitoring are used to: (1) assess the effectiveness of the FS-1 ETD treatment system in removing contaminants from the groundwater; (2) calculate the amount of contaminant mass removed; (3) verify the treatment system effluent meets the requirements of the National Pollutant and Discharge Elimination System (NPDES) permit exclusion; and (4) guide operational decisions.

1.2.3 Direct Impact Monitoring

Direct impact monitoring is conducted to assess potential ecological impacts associated with the discharge of treated groundwater to the K1 bog and K2 bog west ditches and downstream. It involves a comparison of water quality parameters measured in the treatment plant effluent and surface-water locations both upstream (36SW0010) and downstream (36SW0300) of Bubbler #1 within the context of the Massachusetts criteria for treated water discharged to surface waters (314 CMR 4.00). This comparison is further discussed in Section 3.3.2.

1.3 PREVIOUS INVESTIGATIONS

The investigations conducted to support the design of the FS-1 treatment system began in 1983 and continue to the present with ongoing optimization evaluations. The results of these studies have been presented in several reports (AFCEE 1999a, 1999b, 2000a, 2001, 2002, and 2003a).

1.4 REPORT ORGANIZATION

This report consists of six sections and three appendices. Section 2.0 presents a summary of the FS-1 SPEIM activities conducted during the reporting period. The results and analyses of the monitoring and FS-1 ETD operational information are included in Section 3.0. A summary of the evaluations/assessments and conclusions are presented in Section 4.0. Recommendations are presented in Section 5.0 and references are in Section 6.0.

The SPEIM laboratory data for samples collected between 01 November 2002 and 30 April 2003 is contained in [Appendix A](#). This data is available on request from AFCEE in hardcopy or electronic format (i.e., compact disk). [Appendix B](#) is a Data Summary Report that summarizes the quality control and assurance protocols used to evaluate the laboratory data collected under the SPEIM program between 01 November 2002 and 30 April 2003. [Appendix C](#) presents a SPEIM modification summary and associated project notes documenting changes to the monitoring program or operational changes for the remedial system during the reporting period.

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2.0 MONITORING ACTIVITIES

As discussed in Section 1.0, activities conducted in support of this annual assessment include the collection of hydraulic and chemical data, groundwater, surface water, and treatment plant data. Summaries of the FS-1 SPEIM program during the reporting period are presented in [Table 2-1](#) (surface water), [Table 2-2](#) (groundwater), and [Table 2-3](#) (treatment plant). In October 2002, following the treatment plant fire, surface water and groundwater chemical monitoring frequencies were modified to assess changes in the spatial distribution of EDB in the southern portion of the plume (AFCEE 2003c). These post-fire monitoring program changes are also in [Table 2-1](#) and [Table 2-2](#).

The following sections describe the FS-1 SPEIM monitoring conducted during the reporting period (i.e., between 01 May 2002 and 30 April 2003).

2.1 HYDRAULIC MONITORING

Hydraulic monitoring includes measuring: (1) surface water levels and stream discharge rates; (2) groundwater levels; and (3) remedial system extraction and discharge flow rates.

2.1.1 Surface Water Elevation and Stream Discharge

During the reporting period, stream gauging data were collected at six locations in the Quashnet River and bog ditches (36SG0001B/C, 36SG0015A/B, 36SG0200A/B, 36SG0201A/B, 36SG0301C/D, and 36SG0303A/B). Monitoring locations are presented in [Figure 2-1](#) and the rationale and frequencies are presented in [Table 2-1](#). Discharge measurements include stream elevation in feet mean sea level (ft msl), velocity (feet per second), and flow (cubic feet per second) [cfs].

Stream gauging that could not be collected during the reporting period included measurements at 36SG0201A/B and 36SG0303A/B in the K2 bog east ditch in May and June 2002 due to low water levels and excessive vegetation in the bog ditch. Measurements were not collected at these locations again in December 2002 and March

2003 because of low flow due to the flooding of the cranberry bog for frost control. In addition, stream flow could not be measured in March 2003 at location 36SG0200A/B due to flooding of the cranberry bogs for frost control.

2.1.2 Groundwater Levels

The locations where groundwater levels were monitored are shown in [Figure 2-2](#), and the rationale and frequencies are presented in [Table 2-2](#). Groundwater levels were measured quarterly during the reporting period with exception of three piezometers, 36PZ4235, 36PZ4236, and 36PZ4237, which were measured monthly at the request of the Town of Mashpee.

Groundwater levels could not be measured at three locations during the reporting period. Measurements were not collected from 36PZ4235, 36PZ4236, and 36PZ4237 during January and February 2003 because the piezometer locks and/or water were frozen.

2.2 CHEMICAL MONITORING

2.2.1 Groundwater Quality Monitoring

During the reporting period, the FS-1 SPEIM program included monitoring EDB concentrations in groundwater from monitoring wells, piezometers, and SWPs. In addition to monitoring the plume, groundwater at the source area was monitored for volatile organic compounds (VOCs) and metals. A detailed summary of groundwater sampling activities is presented in [Table 2-2](#), and sampling locations are shown in [Figure 2-3](#) (groundwater wells and piezometers) and [Figure 1-5](#) (SWPs). Water quality parameters temperature, DO, pH, specific conductance, oxidation-reduction potential (ORP), and turbidity were also measured at each location. There were no deviations from the monitoring plan during the reporting period.

2.2.2 Surface Water Quality Monitoring

Surface water was monitored for EDB at locations throughout the Quashnet River and associated cranberry bog ditches ([Figure 2-1](#) and [Table 2-1](#)). Water quality parameters

temperature, DO, pH, specific conductance, ORP, and turbidity were also measured at each location. In addition, temperature and DO concentrations were monitored hourly at locations 36SW0300 and 36SW0010 (downstream and upstream of the treatment system discharge, respectively). There were no deviations from the monitoring plan during the reporting period.

2.3 TREATMENT PLANT MONITORING

Water samples were collected from the following locations within the remedial system prior to the October 2002 fire: (1) deep extraction well 36EW0005; (2) SWP sampling port 36PLT01005; (3) combined influent sampling port 36PLT01001; (4) 36PLT01002 or 36PLT01004 (depending on which carbon vessel is functioning as the lead unit, this port is used to monitor water quality after primary treatment through the lead vessel); and (5) treatment plant effluent port 36PLT01003, which is located after the carbon vessels. These sampling locations are shown on the treatment system process flow diagram in [Figure 1-6](#), and the sampling frequency and parameters included in the analysis are listed in [Table 2-3](#).

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3.0 SYSTEM PERFORMANCE AND ECOLOGICAL IMPACT MONITORING RESULTS AND ANALYSIS

This section presents and evaluates the groundwater, surface water, and remedial system monitoring data collected during the reporting period (01 May 2002 – 30 April 2003). The analytical data from the laboratory for the period of November 2002 through April 2003 are presented in [Appendix A](#) and the Data Summary Report is presented in [Appendix B](#). Analytical data from the period of May through October 2002 was presented in the 2002 semiannual report (AFCEE 2003a).

3.1 SITE HYDROLOGY

Data on precipitation, Quashnet River and bog discharge, and groundwater and surface water elevations are presented and discussed in this section. These data are evaluated to provide an understanding of groundwater and surface water conditions that potentially affect the geometry or migration of the FS-1 plume. Precipitation data are evaluated to identify any trends or events that might impact groundwater and surface water data.

3.1.1 Precipitation Data

The reporting period precipitation measurements at MMR, including daily and monthly precipitation and cumulative rainfall, are presented in [Figure 3-1](#). Daily precipitation totals during the reporting period surpassed one inch per day on fourteen separate dates. A maximum daily precipitation of 3.30 inches was recorded on 30 March 2003. Monthly total precipitation for the reporting period ranged from a low of 0.64 inches in July 2002 to a high of 7.15 inches in March 2003.

The total precipitation from 01 May 2002 to 30 April 2003 was 54.59 inches, which is higher than the Cape Cod 30-year average annual precipitation of 46.57 inches (AFCEE 2003b). [Figure 3-1](#) also shows that the cumulative precipitation rises fairly consistently over the reporting period with the exceptions of a dry spell from mid-June through mid-August 2002 and storms on 23 September 2002 and 30 March 2003.

Groundwater recharge is a function of precipitation and evapotranspiration. While the precipitation is fairly evenly distributed throughout the year, less recharge likely occurs in the summer due to higher rates of evapotranspiration during this time.

3.1.2 Quashnet River and Bogs Flow Data

The Quashnet River and associated bogs are the main surface water features of interest within the study area. The Massachusetts Department of Environmental Protection (DEP) has classified the Quashnet River as a Class B surface water body (e.g., suitable for recreational purposes and agricultural uses). The cranberry bogs associated with the Quashnet River are currently active, but not in production.

Flow in the Quashnet River is partially derived from outflow from Johns Pond, a kettle pond located to the west of the bog complex. River flow is controlled by a weir located on the northeast portion of Johns Pond. From there, the river flows east through the wetlands and large cranberry bog complex exiting to the south (refer to [Figure 2-1](#)).

The flow of the Quashnet River through the bog complex can be controlled by weirs located at the entrance, midpoint, and exit of the bog complex. Water levels are manipulated throughout the year for fisheries management and cranberry growing activities.

In addition to outflow from Johns Pond, sources of water to the Quashnet River include: (1) the groundwater and treatment plant discharge via the infiltration trench to the K1 bog ditches which flow into the K2 bog west ditch; (2) the groundwater and treatment plant discharge to the K2 bog west ditch which flows into the Quashnet River; and (3) the groundwater discharge to the K2 east, K3, K4, K5, and K6 bog ditches.

The data from three monitoring locations in the Quashnet River, (36SG0015A/B, 35SG0200A/B, and 36SG0001B/C) ([Figure 2-1](#)), are used to estimate groundwater discharge to the river. Location 36SG0015A/B (upstream) is where the Quashnet River flows into the Quashnet bog complex from the west. Location 36SG0001B/C

(downstream) is in the Quashnet River where it exits the southeast corner of the bog complex. Location 35SG0200A/B (midstream) is at the midpoint of the river where it separates the K1, K2, K3, and K4 bogs from the lower bogs (K5 and K6), and downstream of the confluence with the K2 west ditch. The data collected from these monitoring locations are presented in [Table 3-1](#) and in [Figure 3-2](#).

Flow rates at these three monitoring locations varied, but exhibited a similar trend (i.e., higher rates in the spring/early summer and lower rates in the late fall/winter) ([Figure 3-2](#)). Specifically, the flow rates at downstream location 36SG0001B/C ranged from 4.28 cfs in September 2002 to 6.90 cfs in March 2003. At upstream location 36SG0015A/B, the flow rates were between 0.62 in September 2002 and 2.07 cfs in June 2002. The pattern of higher rates in the spring/early summer and lower rates in the late fall/winter are likely associated with bog operations (i.e., bogs were flooded in early January to protect the cranberry plants from freezing and drained in mid-March when daily low temperatures were consistently above freezing).

The groundwater discharge rate to the bogs and Quashnet River segment adjacent to the bogs [$Q_{(gw-discharge)}$] can be calculated by subtracting the upstream flow and the treatment plant discharge from the downstream flow (with the assumption that direct surface-water runoff as a result of precipitation is negligible).

$$Q_{(gw-discharge)} = Q_{(36SG0001B)} - Q_{(36SG0015A)} - Q_{(discharge\ of\ treatment\ system)}$$

where Q = flow rates at various locations.

Using this relationship, the calculated groundwater discharge rates to the bogs were between 1.76 and 3.24 cfs, with a median of 2.38 cfs ([Figure 3-2](#)). This range of discharge rates confirms that groundwater discharge from the Quashnet bogs comprises a significant portion of the flow in the Quashnet River downstream of these bogs. While flow rates at the staff gauge locations in the Quashnet River varied considerably throughout the year, the groundwater discharge to the bogs was less variable.

The flow of the Quashnet River increases considerably along the reach between where it enters the bog complex and its confluence with the K2 bog east ditch. Specifically, based on the data for the first four monitoring events in the reporting period ([Figure 3-2](#)), the flow at the midpoint monitoring location on the river (36SG0200A/B), which is near the confluence of the K2 bog east ditch, was 92 percent of the flow at the furthest downstream station (36SG0001B/C). Additionally, over the same time period, the flow at the furthest upstream location (36SG0015A/B) was only 25 percent of the flow of the downstream station (36SG0001B/C). Furthermore, the flow rates at the midpoint location 36SG0200A/B, which ranged from 4.23 – 5.39 cfs, were 2 to 6 times higher than discharge rates at upstream location 36SG0015A/B, which ranged from 0.62 – 2.07 cfs. These results indicate that the flow in the Quashnet River increases considerably over the reach between the entry point and the midpoint in the bog complex.

3.1.3 Groundwater Elevation Data

Groundwater level data for this reporting period (01 May 2002 to 30 April 2003) are presented in [Table 3-2](#). The groundwater elevation monitoring locations are shown in [Figure 2-2](#). In general, hydraulic data are used to evaluate hydraulic capture and associated groundwater flow conditions as a result of the remedial system. However, because of the fire at the treatment plant in October 2002, the hydraulic evaluation for this report focused on changes in groundwater flow patterns prior to and after the fire.

Hydrographs for selected monitoring wells near the bogs are presented in [Figure 3-3](#). During the reporting period, the highest groundwater elevations were recorded in March 2003 and the lowest groundwater elevations were recorded in September 2002. Groundwater levels in monitoring wells near the bogs increased over the reporting period by an average of 1.83 inches. This increase can be attributed to several factors, including: (1) the recovery of water levels after fire destroyed the treatment plant, and the deep extraction well and SWPs ceased operation; (2) the intentional flooding of the Quashnet bogs between early January and mid March 2003 to protect the cranberry vines from freezing; and (3) the amount of precipitation during this period.

Hydrographs of data collected throughout the reporting period for monitoring wells in the central and northern portions of the FS-1 plume are presented in [Figure 3-4](#). Groundwater levels in these areas were fairly constant until 2003 when levels rose over two inches by March/April 2003 (end of the reporting period). This rise in early 2003 probably resulted from the higher levels of precipitation that occurred during this period. In general, the water level variation in the FS-1 area was consistent with the seasonal water level trend that is typical at MMR (i.e., an increase in the spring through the summer and a decrease from the fall through the winter).

An analysis of the vertical component of hydraulic gradient was conducted to identify spatial patterns of vertical flow and to help understand the hydraulic affects of the remediation system and conditions after October 2002 (i.e., non-pumping conditions). Gradients were calculated using the convention of subtracting the shallow value of hydraulic head from the deeper value of hydraulic head at a same location, and dividing by the vertical distance between the mid-point of the two different screen intervals. Negative values, therefore, indicate downward flow and vice versa. The vertical components of hydraulic gradient at selected locations are plotted as a function of time during the reporting period in [Figure 3-5](#).

The vertical component of hydraulic gradient indicates a strong upward flow component in the vicinity of the monitoring well cluster 36MW0132B/C, which is located directly east of the K2 bog and within the plume. This upward flow indicates potential for groundwater that discharges to this bog to transport contaminants when the water table intersects the ground surface in the bogs.

The vertical component of hydraulic gradient at 36MW0132A/B is positive, but the magnitude of this upward flow component decreased when the bog was flooded. Thus, flooding of the bogs appeared to have resulted in reduced discharge of groundwater to the bogs.

The vertical component of hydraulic gradient in the monitoring well cluster west of the bogs and the FS-1 plume (36MW1011A/B) indicates the presence of an upward flow

component in this area throughout the reporting period. This suggests that this area downgradient of the toe of the plume is not affected hydraulically by the operation of the FS-1 remedial system. The vertical component of hydraulic gradient in the monitoring well cluster located just north of the K1 bog (36MW1010C/PZ) is consistently negative, which indicates the potential for downward flow in the upper portion of the aquifer at that location.

The vertical components of hydraulic gradient in the monitoring wells in the central and northern portion of the FS-1 plume area (represented by the dashed-line pattern in [Figure 3-5](#)) were nearly zero, suggesting predominantly horizontal groundwater flows.

Groundwater elevation data collected from September 2002 (indicative of pumping conditions) and March 2003 (indicative of non-pumping [post-fire] conditions) are shown on [Figure 3-6](#) and [Figure 3-7](#), respectively. Also shown on these figures are contours of simulated groundwater elevations produced by the numerical groundwater model for the site. The depth interval selected for this comparison (i.e., pumping vs. non-pumping) is approximately equivalent to the depth of the center of contaminant mass within the FS-1 plume (i.e., approximately -100 ft msl).

A comparison of [Figure 3-6](#) and [Figure 3-7](#) show consistently higher observed water level elevations (approximately 1.5 – 2 feet) in March 2003 than those used for the simulated conditions (September 2002), however, the horizontal components of hydraulic gradient remain similar between the simulated and observed conditions. The simulated groundwater contours show that groundwater flow near the deep extraction well is naturally toward the south/southwest (i.e., toward the Quashnet River). These flow patterns are consistent under pumping and non-pumping conditions, with the exception of a localized area immediately surrounding the extraction well.

3.2 GROUNDWATER CHEMISTRY

This section presents the results of groundwater chemical and water quality monitoring conducted during the reporting period (as described in [Table 2-2](#)). Section 3.2.1 presents

the results from the monitoring associated with the FS-1 plume and Section 3.2.2 presents results associated with the FS-1 source area.

3.2.1 FS-1 Plume

This section presents an evaluation of the FS-1 plume chemical groundwater data collected during the reporting period.

3.2.1.1 Chemical Parameters

The monitoring locations for the groundwater program are identified in [Figure 2-3](#), and the analytical results are presented in [Table 3-3](#). During the reporting period, EDB concentrations ranged from non-detect to 22.9 µg/L in the core of the plume (36MW1038B, 04 December 2002). Concentrations in the core of the plume have changed little since initial plume characterization in 2000, when a maximum EDB concentration of 29 µg/L was detected in 36MW1038B.

A new plume shell for the FS-1 EDB plume (March 2003) was developed during this reporting period and is presented in [Figure 3-8](#). For comparison purposes, the previous plume shell developed in October 2000 is also shown in [Figure 3-8](#). The plume shell is a graphical representation of the volume of the aquifer where EDB is currently present at concentrations above the MMCL of 0.02 µg/L. The new March 2003 plume shell is based on data collected through March 2003, including borehole screening data from a new monitoring well cluster 36MW1043A/B which was installed in May and June 2002 in the north central portion of the plume.

Based on the new 2003 plume shell, the volume of the FS-1 plume decreased from approximately 1.56 billion gallons in October 2002 to approximately 1.25 billion gallons in March 2003. However, the mass of EDB in the plume increased from 7.75 kg to 9.4 kg. The increase in estimated EDB mass within the plume was due to the incorporation of data collected during the installation of 36MW1043A/B. The borehole screening data collected during construction of this well indicated that the area of higher

concentration was thicker at this location than previously simulated by the numerical transport model.

An EDB plume created using only chemical data collected during the reporting period is shown in plan view in [Figure 3-9](#). A cross-sectional view along its axis is shown in [Figure 3-10](#).

The core of the plume continues to center around the high concentrations measured in 36MW1038B (22.9 µg/L in December 2002) and at an elevation of -104.6 ft msl. The trailing edge of the plume continues to be defined by 36MW0603A at an elevation of -86.8 ft msl. Here, concentrations have declined from 0.189 µg/L in June 2002 to 0.091 in April 2003. Concentrations in most other in-plume wells upgradient of the bogs have shown similar declines. Groundwater detections of EDB extend only as far south (downgradient) as 36MW1001B (0.051 µg/L at an elevation of -62.87 ft msl) located at the boundary between the K2 and K6 bogs. Groundwater from the deeper and shallower wells at this location (36MW1001A and 36PZ1001) both continue to be non-detect for EDB.

EDB concentrations in groundwater are presented in [Figure 3-11](#) as a function of time for fourteen wells in the southern portion of the plume that have been measured frequently since the startup of the FS-1 remedial system in April 1999. Although the results for individual wells show considerable variation with time, all wells show a general downward trend in EDB concentration over the period prior to the treatment plant fire in October 2002. However, after the treatment system fire in October 2002, EDB concentrations in three wells increased considerably: 36MW0131A (-130.4 ft msl), 36MW0131B (-83.2 ft msl), and 36MW0132B (-83.2 ft msl). EDB concentrations in the groundwater from the deep well 36MW0131A, located 275 feet southeast (crossgradient) of the deep extraction well (36EW0005), increased from 1.65 µg/L (September 2002) to 7.38 µg/L (March 2003). The shallower well in this cluster, (36MW0131B) is near the top of the plume. The EDB concentration in groundwater from 36MW0131B increased from 0.329 µg/L (September 2002) to 5.89 µg/L (March 2003). 36MW0132B is located 740 feet south (downgradient) of the deep extraction well and east of the SWPs. EDB

concentrations in the groundwater from this well have increased from 1.46 µg/L (September 2002) to 2.67 µg/L (March 2003). The increase in EDB concentrations of the groundwater from the above-mentioned wells is likely due to the migration of the core of the plume that is no longer being captured by the deep extraction well.

36MW0136 (-89.74 ft msl) is located on the southeastern edge of the plume boundary, and EDB concentrations have fluctuated above and below the MMCL since October 1999 ([Figure 3-11](#)). Since October 2002, EDB concentrations have increased from 0.01 µg/L in September 2002 to 0.086 µg/L in March 2003. This data indicates the leading edge of the plume has migrated southeast of 36MW0136 since the remedial system ceased pumping.

The concentrations of EDB in the SWPs during the reporting period are listed in [Table 3-3](#). These data reveal the pattern of upward migration of the plume near the eastern margins of the K2 and K6 bogs (under both pre- and post-fire conditions). The highest EDB concentrations occur in the SWP system adjacent to the K2 bog, and between the K2 and K6 bogs, with the maximum concentration of 1.77 µg/L in 36EW4065 (November 2002) and 1.29 µg/L in 36EW4100 (January 2003) ([Figure 1-5](#)). EDB was not detected in the eastern branch of the SWP extraction system, along the northern edge of the K6 bog. This pattern of EDB detections in the SWPs is essentially unchanged from the previous reporting periods (AFCEE 2002 and 2003a). On that basis, the distribution of plume mass at the SWPs has not changed since the treatment plant shutdown.

In summary, the data on EDB concentrations in groundwater during this reporting period show that:

- The spatial distribution of the plume has changed little since the last synoptic mapping in 2000. The core of the plume remains upgradient and slightly east of the deep extraction well (36EW0005). The plume continues to extend from 36MW0603A, which defines the trailing edge in the north, to EDB detections in the surface water of the K6 bog, which define the leading edge. Consistent with previous years, EDB was not detected south of the border between the K2 and K6 bogs.

- At 36MW0136, located on the southeastern leading edge of the plume boundary, EDB concentrations have fluctuated above and below the MMCL since October 1999. Since the fire, EDB concentrations have increased at this location from 0.01 µg/L in September 2002 to 0.086 µg/L in March 2003.
- EDB concentrations have generally decreased during the reporting period. However, there are localized areas near and south of the extraction well where EDB concentrations increased following the treatment system shutdown in October 2002.
- The estimated 2003 total plume mass increased as a result of screening data collected during the installation of well cluster 36MW1043A/B indicating that the area of high EDB concentration was 20 feet thicker than previously simulated by the numerical transport model.

3.2.1.2 Water Quality Parameters

Field measurements of water quality parameters (temperature, DO, pH, specific conductance, ORP, and turbidity) from groundwater monitoring wells and shallow extraction wellpoints are summarized in [Table 3-3](#). Sampling locations are shown on [Figure 1-5](#) and [Figure 2-3](#).

Groundwater temperatures observed during the reporting period in the monitoring wells and piezometers generally ranged from 7.28 degrees Celsius (°C) in the winter to 21.20°C in the summer. The temperature of the treatment plant influent and effluent did not show this seasonal variation. The temperature of the combined influent (36PLT01001) from both 36EW0005 and the SWPs ranged from 10.27°C to 12.45°C and the effluent ranged from 10.32°C to 12.14°C. Because groundwater temperatures are measured in a flow-through cell at the surface, some of the variation in monitoring well and piezometer data is attributable to the differences in the ambient temperature.

Specific conductance in groundwater generally ranged from about 50 to 120 microsiemens per centimeter (µS/cm). In general, these values are typical of values elsewhere on Cape Cod (AFCEE 2000a, 2002, and 2003a).

Groundwater pH values generally range from 5 to 7 during the reporting period. The average value of pH is essentially unchanged from the previous reporting period.

Measurements of groundwater DO and ORP ranged from 0.03 to 12.86 milligrams per liter (mg/L), and -266 to 505 millivolts (mV), respectively, in monitoring wells and piezometers. They ranged from 0.27 to 12.34 mg/L and -12 to 477 mV, respectively, in the SWPs. DO averaged 4.49 mg/L and ORP averaged 197 mV over the reporting period. Groundwater from most monitoring wells continue to exhibit oxidizing characteristics throughout the reporting period (DO greater than 2 to 3 mg/L and ORP greater than 0 mV).

Most turbidity values were less than 10 nephelometric turbidity units (NTU), indicating very low amounts of suspended material in the groundwater sampled from monitoring wells and shallow wellpoints. For the monitoring wells and piezometers, 48 of 334 measurements exceeded 10 NTU, with a maximum turbidity value of 578 NTU. For the shallow wellpoints, 11 of 97 measurements exceeded 10 NTU, with a maximum turbidity value of 58 NTU. The elevated turbidity values are probably related to disturbance of downhole conditions during sampling resulting in suspension of fine-grained material that is not normally part of the water column. Mildly elevated turbidity is unlikely to affect measured EDB concentrations or the other field parameters.

In summary, the water quality data in groundwater during this reporting period show that water quality parameter measurements were consistent with previous results. Data also indicate that most of the groundwater in the FS-1 plume is oxic. Oxic conditions can improve natural degradation of EDB in groundwater.

3.2.2 Source Area Groundwater Chemistry

The FS-1 Record of Decision identified three COCs (i.e., toluene, thallium, and lead) in the groundwater of the FS-1 source area. During the reporting period two COCs, toluene and lead, were detected in source area groundwater samples. Groundwater chemistry data for the three monitoring wells in the source area (36MW0015, 36MW0002, and 36MW0007) and the monitoring well approximately 400 feet down gradient of the source area (36MW0010A) are presented in [Table 3-3](#) and [Table 3-4](#). The locations of these wells are shown on [Figure 2-3](#). During the reporting period, EDB was not detected in

groundwater samples from these monitoring wells; however, three VOCs generally associated with refined petroleum products (e.g., aviation fuel) were detected in two wells. Specifically, the three VOCs (ethylbenzene, toluene, and total xylene) were detected below their respective maximum contaminant levels (MCLs) in monitoring wells 36MW0002 (midscreen elevation 54.29 ft msl) and 36MW0007 (midscreen elevation 56.20 ft msl). These compounds do not appear to be migrating because they were not detected in the deepest well, 36MW0015 (midscreen elevation -21.75 ft msl), and the well located downgradient of the source area, 36MW0010A (midscreen elevation 35.60 ft msl).

Two other VOCs were detected at different times during the reporting period in the source monitoring wells at concentrations either below drinking-water standards, or at very low concentrations. Specifically, tetrachloroethylene was detected in groundwater from one well, 36MW0002, in December 2002 at an estimated concentration of 0.2J µg/L. Chloroform, for which the Massachusetts Office of Research and Standards Guidelines is 5.0 µg/L, was detected in groundwater from all four wells: 36MW0002 in June (1.62J µg/L) and September 2002 (1.66J µg/L); 36MW0007 in June 2002 (3.03.µg/L), September 2002 (1.44J µg/L), and in March 2003 (1.7 µg/L); 36MW0015 in June 2002 (0.38J µg/L) and March 2003 (0.32J µg/L); and 36MW0010A in March 2003 (0.48J µg/L).

Fifteen metals were detected in groundwater samples from the source area wells. Specifically, barium, calcium, chromium, lead, magnesium, manganese, nickel, potassium, and sodium were detected in groundwater samples from all four source area monitoring wells. With the exception of lead (discussed below), the concentrations of all of the metals detected in the source area groundwater samples were below their respective MCLs or action level. The presence of the iron and manganese is likely due to dissolution of these metals from soil particles under the reducing conditions created by the fuel spill in the source area. Arsenic and cobalt were detected at low concentrations in groundwater from 36MW0002 and 36MW0007. Aluminum and cobalt were detected in groundwater from 36MW0015. Low concentrations of antimony were detected in

groundwater from 36MW0007 and 36MW0010A. Copper was detected in groundwater from 36MW0007, and zinc was detected in groundwater from 36MW0002 and 36MW0015. The probable sources of the above-mentioned metals, with the exception of lead, are naturally occurring.

Lead was detected in groundwater from the two wells (36MW0002 [164 – 241 µg/L] and 36MW0007 [207 – 476 µg/L]) that also contained detectable concentrations of VOCs associated with refined petroleum products. Consequently, the source of the lead in groundwater at these wells is probably the fuel spill. Over the reporting period, the concentrations of lead generally declined in 36MW0002 and 36MW0007. Lead was also detected in groundwater from 36MW0010A (downgradient of the source area) and 36MW0015 (deeper well within the source area) in June 2002. This was the only time lead has been detected at these locations since AFCEE began monitoring the FS-1 source area in January 2002. Because lead has not been consistently detected in groundwater from these downgradient and deeper wells, it does not appear that the lead is migrating from the source area. In two of the source area wells (36MW0002 and 36MW0007), the concentrations of lead in groundwater detected during the reporting period exceeded the U.S. Environmental Protection Agency and DEP action level of 15 µg/L at least once during the reporting period.

In summary, the source area groundwater monitoring data indicate that:

- The refined petroleum-related VOC concentrations were below their respective MCL and are not migrating.
- Lead concentrations were detected above the public water supply action level; however, concentrations were decreasing and data suggest that the lead is not migrating from the source area.

3.3 SURFACE WATER CHEMISTRY

Surface water was sampled to monitor the impacts of the remedial system, and potential human health and ecological risks associated with EDB-contaminated groundwater discharging to the Quashnet River and adjacent bog ditches. Water quality parameters

were also monitored to evaluate potential ecological impacts associated with the discharge of treated groundwater to surface water in the K2 bog and the infiltration trench in the K1 bog (AFCEE 1999a).

3.3.1 Chemical Parameters

Fifteen Quashnet River and bog surface water locations were monitored for EDB during the reporting period. The locations of these sampling points are identified in [Figure 2-1](#), and the resulting analytical data for the reporting period are presented in [Table 3-5](#).

Prior to October 2002, EDB was not detected in the surface waters of the K1 bog ditches or the K2 bog ditches (i.e., east and west ditches). Historically EDB has not been detected in the K1 bog ditches or the K2 bog west ditch since August 1999. EDB was detected in surface water samples collected from two locations (36SW0019 and 36SW4188) in the K6 bog and from one sample in the Quashnet River (36SW0003) during this reporting period.

Since October 2002, EDB has not been detected in the surface water of the K1 bog ditches, the K2 bog west ditch, or the Quashnet River. However, EDB has been detected at all locations monitored in the K2 bog east ditch (i.e., 36SW0200, 36SW0201, 36SW0301, and 36SW0303). Generally, the EDB data from the K2 bog east ditch locations shows an increasing concentration trend during the reporting period. April 2003 EDB concentrations detected in the K2 east ditch ranged from 0.016 µg/L (36SW0303) to 0.041 µg/L (36SW0301). Additionally, EDB continued to be detected at two locations, 36SW0019 and 36SW4188 in the K6 bog. The EDB data from locations in the K6 bog was variable and did not indicate a concentration trend. In April 2003, the EDB concentrations at 36SW0019 and 36SW4188 were 0.04 µg/L and 0.021 µg/L respectively.

The FS-1 flow and transport model (AFCEE 2001) was used to predict the mass flux of EDB to the Quashnet River and associated bogs, and to predict the resulting EDB concentrations in the surface water. The FS-1 model simulated conditions assuming no

active treatment of contaminated groundwater from October 2002 through October 2003. The model was run until the EDB concentrations in surface water were no longer increasing (i.e., October 2002 through January 2004).

The simulation results of EDB mass discharge to the Quashnet River and bogs are shown in [Figure 3-12](#). The simulated concentrations of EDB in surface water are presented in [Figure 3-13](#). The results of the model simulations indicate that 278 grams (g) of EDB will discharge to the surface waters of the Quashnet River and bogs during this period (i.e., through January 2004). The majority of the EDB discharges to the surface waters of the K2 bog (i.e., 160 g or 58 percent of the simulated discharge of EDB mass). Approximately 91 percent (or 145 g) of the EDB that discharges to the K2 bog does so within the K2 bog east ditch. Twenty-eight percent (79 g) of the simulated EDB mass discharges to the K6 bog, 12 percent (32 g) discharges to the K1 bog, and two percent discharges to the Quashnet River.

The model results indicate that the highest predicted concentration of EDB in surface water (0.63 µg/L) discharges to the K2 bog east ditch during January 2004. The simulated maximum concentration of EDB in surface water is 10 times less than the screening-level human health RBC of 6.5 µg/L (for a risk of 10^{-3}) (AFCEE 2003a), and 49 times less than the screening-level ecological benchmark of 31 µg/L (AFCEE 1998).

In summary, the EDB concentrations detected in surface water during this reporting period and modeling show that:

- EDB began discharging to the K2 bog east ditch when the treatment system went off-line in October 2002.
- The majority of the plume mass is predicted to discharge to the K2 bog east ditch and the K6 bog.
- Maximum predicted surface water EDB concentrations are below screening-level human health and ecological benchmarks.

3.3.2 Surface-Water Quality Parameters

Water quality parameters (i.e., temperature, DO, pH, specific conductance, ORP, and turbidity) measured in samples collected from surface water locations during the reporting period are presented in [Table 3-5](#). In accordance with a request from the Town of Mashpee and Massachusetts Division of Fisheries and Wildlife, hourly temperature and DO measurements from the K1 (upstream of the treatment plant surface water discharge location) and K2 (downstream of the treatment plant surface water discharge location) bogs are presented graphically in [Figure 3-14](#), [Figure 3-15](#), [Figure 3-16](#), and [Figure 3-17](#).

Surface water samples were collected both upstream and downstream of the treatment system discharge Bubbler #1. Potential ecological impacts were determined by comparing temperature, DO, and pH measurements at locations downstream and upstream of the treatment system discharge to the Code of Massachusetts Regulations, 314 CMR 4.00, Surface Water Quality Standards (AFCEE 1999a). It is noted that the variability inherent in these measurements due to time of day, cloudiness, and precipitation can obscure short-term differences.

Temperature

The temperature of surface water in the Quashnet River and bog ditches was influenced by seasonal variations in ambient air temperature, the influx of groundwater, the discharge of treated groundwater, and the manipulation of water levels associated with cranberry-growing activities (e.g., flooding the bogs) and fisheries management (i.e., managing herring runs to Johns Pond).

During the reporting period, the temperatures of the Quashnet River and bog ditches ranged from 1.52°C (36SW0221 on 17 January 2003) to 30.32°C (36SW0303 on 27 June 2002) (refer to [Table 3-5](#)). Hourly temperatures monitored at 36SW0010 (upstream of Bubbler #1) and 36SW0300 (downstream of Bubbler #1) are presented in [Figure 3-14](#) and [Figure 3-16](#), respectively.

The hourly data shows the temperature of the downstream location ranged from 7.19°C cooler (July 2002) to 1.67°C warmer (September 2002) than the upstream location. Therefore, surface water discharge from the treatment system did not exceed the acceptable criteria for temperature variation during the reporting period (i.e., the rise in temperature was less than 2.8°C [314 CMR 4.05]).

Dissolved Oxygen

DO concentrations in the surface water of the Quashnet River and bog area were influenced by: (1) ambient air temperature (DO concentrations are inversely related to temperature); (2) chemical and geochemical processes; (3) biochemical processes (i.e., photosynthesis [oxygen-producing process], and respiration); and (4) agricultural activities (e.g., bog ditch maintenance). In general, surface water DO concentrations increase from mid-morning through late afternoon due to photosynthesis occurring in aquatic plants (e.g., algae and macrophytes), which produce more oxygen than can be consumed by either chemical oxygen demand (COD) or biochemical oxygen demand (BOD). During the hours when there is not enough light to sustain photosynthesis, respiration becomes the dominant process. When respiration and chemical oxidation are the dominant processes, oxygen is consumed at a rate greater than it is replaced from the atmosphere, and the concentration of DO decreases in the surface water.

During the reporting period, the DO concentrations measured in surface water from the Quashnet River and bogs area ranged from 4.62 mg/L (14 November 2002 at 36SW0036) to 19.79 mg/L (08 June 2002 at 36SW0010) (refer to [Table 3-5](#)). Hourly DO concentrations monitored at 36SW0010 (upstream of Bubbler #1) and 36SW0300 (downstream of Bubbler #1) are presented in [Figure 3-15](#) and [Figure 3-17](#), respectively. (It is noted that the DO probe at 36SW0300 failed on 25 May through 30 May 2002; this is indicated as a zero value on the figure.)

The hourly DO concentrations measured at 36SW0300 ranged from 5.12 to 11.39 mg/L. The DO concentrations measured at location 36SW0300 demonstrate that the treatment

system surface water discharge meets the surface water discharge criteria (greater than 5.0 mg/L in warm water fisheries according to 314 CMR 4.05).

During the operation of the treatment plant, DO concentrations are also monitored at 36SW0221 (the K1 bog sampling location most influenced by the groundwater infiltration trench) (see [Figure 2-1](#) and [Table 3-5](#)). The DO concentration consistently remained above 7.7 mg/L. Therefore, DO data indicate that the discharge of treated water from the infiltration trench to the K1 bog did not adversely impact this ecosystem.

pH

The pH of surface water in the Quashnet River and bogs is influenced by: (1) chemical, geochemical, and biological processes occurring in the surface water and sediment; (2) upwelling groundwater; (3) precipitation; and (4) agricultural activities (cranberry growing). During the reporting period, the pH of the Quashnet River and bogs surface water ranged from 5.13 (27 November 2002 at location 36SW0015) to 8.26 (27 June 2002 at location 36SW0303) (refer to [Table 3-5](#)).

Between the period of 01 May and 13 October 2002, during the operation of the treatment plant, the difference in the pH measured at location 36SW0300 (downstream of the treatment system surface water discharge) and 36SW0010 (immediately upstream of the treatment system surface water discharge) ranged from 0.02 to 0.51. Of the 26 comparisons of pH measured at locations 36SW0300 and 36SW0010, one exceeded the criteria stated in 314 CMR 4.05 (the discharge to surface water shall not change the pH by more than 0.5 standard units) by one hundredth of a pH unit.

Specific Conductance

Specific conductance is a measure of the ionic strength (i.e., an indirect measurement of salinity) of a water body. The specific conductance of surface water in the Quashnet River and bogs system is influenced by geochemical processes (e.g., the dissolution of minerals), biological processes, atmospheric processes, and agricultural activities.

During the reporting period, the specific conductance measured in the surface water of the Quashnet River and bogs ranged from 73 $\mu\text{S}/\text{cm}$ (19 September 2002 at 36SW0007) to 112 $\mu\text{S}/\text{cm}$ (02 January 2003 at 36SW0015). The range of specific conductance measured during the reporting was similar to those presented in previous annual reports (AFCEE 2000a, 2002, and 2003a).

Oxidation-Reduction Potential

ORP indicates whether the aquatic environment is oxidizing or reducing. During the reporting period, the ORP measured in the Quashnet River and bogs ranged from -81 mV (28 August 2002 at 36SW4188) to 526 mV (02 May 2002 at 36SW0010) ([Figure 2-1](#), [Table 3-5](#)). The Quashnet River and bogs were generally an oxidizing environment because most of the surface water ORP measurements were greater than zero.

Turbidity

Biological processes, precipitation, and agricultural activities influence turbidity in the Quashnet River and bogs. During the reporting period, the turbidity measured in the surface water of the Quashnet River and bogs ranged from 0 to 59 NTU ([Table 3-5](#)). These measurements were consistent with data presented in previous reports (AFCEE 2000a, 2002, and 2003a).

3.4 REMEDIAL SYSTEM

The groundwater treatment system was monitored for selected chemical, physicochemical, and general plant operational parameters. The treatment plant SPEIM sample locations are presented in [Figure 1-6](#), and the rationale and frequencies are in [Table 2-3](#). Treatment plant analytical results are presented in [Table 3-6](#) and [Table 3-7](#).

3.4.1 Process Water Chemistry

Monthly EDB concentrations in the separate influent streams (SWP and deep extraction well) are shown in [Table 3-6](#) and trends are shown on [Figure 3-18](#). Between May and

October 2002, EDB concentrations in the water extracted from 36EW0005 (the deep extraction well) ranged from 1.23 to 1.78 µg/L, and each month they were higher than the concentrations from the SWP system (which ranged from 0.106 to 0.156 µg/L).

The FS-1 NPDES permit exclusion required the treatment system effluent be monitored for EDB and the effluent EDB concentration be less than 0.5 µg/L. Since EDB was not detected in the treatment system effluent during the operational reporting period within this reporting period, the FS-1 treatment system met the requirements of the permit exclusion.

Analysis of the combined influent (36EW0005 and SWPs) and effluent process water for alkalinity, total dissolved solids (TDS), total suspended solids (TSS), dissolved organic carbon (DOC), total organic carbon (TOC), BOD, COD, and water quality parameters were conducted according to the SPEIM program (refer to [Table 2-3](#) for a summary of the sampling program). The results of the water quality parameter monitoring are presented in [Table 3-6](#). The analytical results of the treatment plant process water are presented in [Table 3-7](#).

During the reporting period there was very little change in the chemical constituents of the treatment system combined influent, 36PLT01001, (i.e., 36EW0005 and SWP) and the effluent, 69PLT01003. An analysis of the data indicates: (1) the mean alkalinity of the influent and effluent were 17.8 and 18.8 mg/L, respectively; (2) BOD was not detected in the influent or effluent; (3) COD was detected in the July influent and effluent at 7.73 and 10.1 mg/L, respectively; (4) mean influent and effluent DOC were 5.4 and 5.0 mg/L, respectively; (5) TSS was not detected in the influent or effluent; (6) the mean influent and effluent TDS were 44.5 and 49.5 mg/L, respectively; and (7) the mean influent and effluent TOC were 5.95 and 6.3 mg/L, respectively.

During the reporting period the mean influent and effluent water quality parameters were also similar in magnitude or concentration. Specifically: (1) the mean influent and effluent temperatures were 11.08 and 11.12°C respectively; (2) the mean influent DO concentration was 8.87 mg/L and the mean effluent DO concentration was 7.76 mg/L;

(3) the mean pH of the influent stream was 6.15 and the mean pH of the effluent was 6.03; (4) the mean ORP value for the influent stream was 368 mV and the effluent ORP value was 342; (5) the mean influent stream specific conductance was 82 $\mu\text{S}/\text{cm}$ and the effluent was 81 $\mu\text{S}/\text{cm}$; and, (6) the mean turbidity measurement of the influent stream was 0.01 NTU and the effluent stream was 0.29 NTU. Based on these sampling data, it is concluded that the treatment system process did not significantly change the chemistry or chemical properties of the extracted groundwater prior to discharge to the K1 bog or K2 bog west ditch.

The temperature difference between the combined influent (36PLT01001) and the effluent (36PLT01003) of the treatment system ranged from -0.19 to 0.31°C during the reporting period. The treatment system effluent met the temperature criteria in the Mashpee Conservation Commission Amended Order of Conditions (i.e., the difference between the treatment plant influent and effluent must be less than 2°C) (MCC 2002).

3.4.2 Flow Rates

Prior to the fire, the remedial system operated 98 percent of the time. Treatment plant downtimes are summarized in [Table 3-8](#). The average pumping rate of the deep extraction well was 296 gpm, which was 99 percent of the design flow rate of 300 gpm. During the same period, the SWP system operated at an average flow rate of 428 gpm, which was 95 percent of the design flow rate of 450 gpm.

3.4.3 Mass Removal

The FS-1 remedial system processed 173 million gallons of contaminated water between 01 May 2002 and 13 October 2002 when the treatment plant was destroyed by fire. During this time the treatment system had two carbon changes, in May and August 2002. Approximately 71 million gallons of contaminated groundwater were removed by the deep extraction well (36EW0005) and 102 million gallons were removed by the SWP system. Based on influent EDB results, the treatment system removed an estimated 0.44 kg (0.97 lbs) of EDB from groundwater. An estimated 0.39 kg (0.86 lbs) of EDB

was extracted by 36EW0005, and the remaining 0.05 kg (0.11 lbs) were removed by the SWP system.

The FS-1 treatment system has processed approximately 1.24 billion gallons of contaminated groundwater since system startup in April 1999. Approximately 4.78 kg (10.5 lbs) of EDB has been removed from groundwater ([Figure 3-19](#)), which represents approximately 34 percent of the current estimated total mass of EDB (14.22 kg [31 lbs]) in the FS-1 plume.

4.0 CONCLUSIONS

The principal goal of the FS-1 remedial action is to prevent or reduce exposure to EDB above the MMCL and restore the aquifer to its beneficial uses. This was being accomplished through the operation of the FS-1 ETD system from startup in April 1999 prior to the treatment plant fire in October 2002. Until the fire, the ETD system was removing contaminant mass from the southwestern portion of the plume and upgradient areas. In this way, the risks to human and ecological receptors were being substantially reduced or eliminated.

The former FS-1 ETD system included a deep extraction well, a series of 175 SWPs, and a GAC treatment plant with two discharge locations. The discharge locations were Bubbler #1 to the K2 bog west ditch and an infiltration trench adjacent to the K1 bog.

A new remediation system is scheduled to begin operation in October 2003 and will include 3 new groundwater extraction wells in addition to the existing one, 3 carbon vessels and discharge via bubblers. The SWPs will no longer be used (AFCEE 2001).

Conclusions reached as a result of the analysis of the pre- and post-fire SPEIM data collected during the reporting period are presented below.

4.1 SITE HYDROLOGY

Consistent with previous investigations, groundwater flow in the study area is generally in a southerly direction toward the Quashnet River and appears to be influenced by local surface water features and pumping. The groundwater monitoring locations immediately east and west of the Quashnet bogs all had upward hydraulic gradients, indicating groundwater discharge. However, the magnitude of this upward flow component decreased when the bog was flooded, indicating that flooding the bogs reduces the discharge of groundwater to the bogs.

Analysis of the surface water flow and groundwater discharge calculations indicates that the Quashnet bogs remain an area of significant groundwater discharge under both

pumping and non-pumping conditions. The calculated groundwater discharge rates to the bogs were between 1.76 and 3.24 cfs during the reporting period.

4.2 GROUNDWATER CHEMISTRY

Groundwater EDB concentrations have generally declined throughout the FS-1 plume during the three years of remedial system operation (April 1999-October 2002), with a maximum concentration of 22.9 µg/L (December 2002) during the report period. However, there are localized areas south of the extraction well where EDB concentrations increased following shutdown of the treatment system in October 2002. The overall plume geometry, as defined by exceedances of the MMCL of 0.02 µg/L, remains essentially unchanged, extending approximately 6400 feet from just north of 36MW0603A to the K6 bog adjacent to the Quashnet River. The core of the plume continues to be defined by data from 36MW1038B, which is located approximately 900 feet upgradient of the deep extraction well (36EW0005). In general, the chemical monitoring data indicate a downward trend in EDB concentrations over the period prior to October 2002. However, after October 2002, EDB concentrations in groundwater at three monitoring wells increased considerably (36MW0131A, 36MW0131B, and 36MW0132B). The increase in EDB concentrations at these locations is likely due to the southward migration of the core of the plume following the fire.

A new plume shell was developed during the reporting period. Based on the 2003 (new) plume shell, the estimated volume of the FS-1 plume decreased from approximately 1.56 billion gallons (October 2002) to approximately 1.25 billion gallons (March 2003). However, the estimated mass of EDB in the plume increased from 7.75 kg to 9.4 kg. The increase in the estimated EDB mass was due to the incorporation of data collected during the installation of 36MW1043A/B. Screening data collected at the time of construction of this well indicated that the area of elevated (above MMCL) EDB concentration was 20 feet thicker than previously predicted.

Monitoring of the FS-1 source area groundwater identified three VOCs and one (total) metal associated with petroleum products (ethylbenzene; toluene; total xylene) and lead. For the VOCs, the low concentrations and declining trends indicate that there is no

continuing source for the FS-1 plume and that natural attenuation will continue to decrease the concentrations of these compounds. Lead will also be removed from the groundwater by chemical precipitation or adsorption as the geochemical environment reverts to oxidizing (background) conditions. With the exception of a detection of (total) lead, no source area COCs (i.e., toluene or thallium) or EDB were found to be present in groundwater downgradient of the source area during the reporting period.

4.3 SURFACE WATER QUALITY

The groundwater treatment system was successful in eliminating EDB from the Quashnet River and K1 and K2 bog ditches. During operation of the FS-1 treatment system, the only surface water monitoring locations that had detectable concentrations of EDB were in the K6 bog (36MW0019 and 36SW4188) and one sample from the Quashnet River (36SW0003). Monitoring conducted after the fire indicated the continued presence of EDB in the K6 bog. Post-fire monitoring also detected EDB-contaminated water in the K2 bog east ditch consistent with model predictions. Maximum predicted surface water EDB concentrations are below screening level human health and ecological benchmarks.

4.4 REMEDIAL SYSTEM

The FS-1 remedial system operated 98 percent of the time prior to the treatment plant fire in October 2002. The treatment system was successful in intercepting EDB-contaminated groundwater before it enters the K1 and K2 bog ditches and the Quashnet River. During the reporting period, the treatment system processed 120 million gallons of contaminated groundwater, removing 0.44 kg (0.97 lbs) of EDB. Since April 1999, the treatment system processed 1,236 million gallons of contaminated groundwater and removed 4.78 kg (10.5 lbs) of EDB.

The data evaluated between May and October 2002 indicate that there were no significant ecological impacts associated with the operation of the groundwater remedial system. The groundwater treatment system appears to have improved the water quality of the K2 bog west ditch (e.g., increasing flow and dissolved oxygen concentrations).

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5.0 RECOMMENDATIONS

Based on analysis of the data collected during the reporting period, AFCEE recommends no changes to the SPEIM monitoring program at FS-1, with one exception for the source area. Since elevated total lead concentrations have been measured in the groundwater from FS-1 source area wells, AFCEE recommends field-filtering source area metal samples to determine the concentration of lead in the dissolved form. AFCEE recommends adding dissolved metals to total metals to determine which method is more appropriate.

AFCEE recommends that after the new FS-1 remedial system begins operation in October 2003, the FS-1 SPEIM groundwater monitoring program should revert to the pre-fire monitoring frequencies (AFCEE 2003d) and include the recommendations presented in the 2002 annual report (AFCEE 2003a). Additionally, AFCEE proposes to monitor the four new extraction wells monthly for EDB and water quality parameters. The proposed groundwater monitoring frequencies are presented in [Table 5-1](#) and well locations are shown in [Figure 2-2](#) and [Figure 2-3](#). It is also recommended that the groundwater monitoring program (i.e., hydraulic and chemical monitoring) be evaluated as part of the FS-1 remedial system hydraulic evaluation scheduled for spring 2004. The methodology of the hydraulic evaluation is presented in [Appendix C](#).

AFCEE recommends continuing to assess the discharge of EDB-contaminated groundwater to the Quashnet River and associated bogs through the monthly monitoring of the K2 bog east ditch (locations 36SW0200, 36SW0201, 36SW0301, and 36SW0303) and K6 bog (locations 36SW0019 and 36SW4188). AFCEE also recommends reverting to the pre-fire quarterly surface water monitoring of the K1 bog, K2 west ditch, and the Quashnet River locations after startup of the new system. The Quashnet River and bogs surface water monitoring frequencies are presented in [Table 5-2](#), and the monitoring locations are shown in [Figure 2-1](#).) Because the new treatment system will discharge the effluent to the K1 and K2 west bog ditches, AFCEE will no longer have an upstream reference location for direct impact monitoring. Therefore, direct impact monitoring will involve the comparison of water quality measurements at 36SW0300 to 36SW0302

(downstream of the treatment discharge in the K2 bog west ditch) and 36SW0003 (immediately downstream of the confluence of K2 bog west ditch and the Quashnet River). The surface water monitoring program (i.e., hydraulic and chemical monitoring) should also be evaluated as part of the FS-1 remedial system hydraulic evaluation scheduled for spring 2004.

When the new FS-1 treatment plant begins operation in October 2003, AFCEE recommends monitoring the following treatment plant sampling ports monthly for EDB and water quality parameters: 36PLT02001 (combined influent); 36PLT02002 (post-GAC); 36PLT02003 (post-GAC); and 36PLT02005 (plant effluent) ([Table 5-3](#)). In addition, AFCEE recommends eliminating the monitoring of the treatment plant combined influent and effluent for alkalinity, BOD, COD, TSS, TDS, DOC, and TOC. The monitoring of these analytes is not required by the regulatory agencies, and is not used to evaluate the performance of the treatment plant.

6.0 REFERENCES

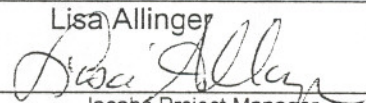
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Client, Project and Location AFCEE, MMR Plume Response Program Task Order 0006 Otis ANG Base, Massachusetts AFCEE Contract F41624-01-D-8547	<h2 style="margin: 0;">Project Note</h2>	Task Order 0006 Project No 35Z15616												
Confirmation of <input checked="" type="checkbox"/> Project Note-P1 <input type="checkbox"/> Client Meeting-P4 <input type="checkbox"/>		Note No.: 004												
Date Held Location Date Issued Recorded By	23 October , 2002 IRP 31 January 2003 Kirk Morris													
Subject Changes to the FS-1 SPEIM Program	Issued By Lisa Allinger  Jacobs Project Manager													
Participants (* Denotes Part Time Participation) <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><u>Client</u></td> <td style="width: 33%;"><u>Jacobs/MMR</u></td> <td style="width: 33%;"><u>EPA</u></td> </tr> <tr> <td>Mike Minior</td> <td></td> <td>Paul Marchessault</td> </tr> <tr> <td>Rose Forbes</td> <td></td> <td>Bob Lim</td> </tr> <tr> <td>John Schoolfield</td> <td></td> <td></td> </tr> </table>			<u>Client</u>	<u>Jacobs/MMR</u>	<u>EPA</u>	Mike Minior		Paul Marchessault	Rose Forbes		Bob Lim	John Schoolfield		
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Rose Forbes		Bob Lim												
John Schoolfield														
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<u>DEP</u>														
Len Pinaud														
Elliot Jacobs														
Item	Remarks	Action Required By												
1.0	On October 13, 2002 fire destroyed the Fuel Spill-1 (FS-1) treatment plant beyond repair. A replacement schedule for the treatment plant has not been finalized at this time. The Air Force Center for Environmental Excellence (AFCEE) recommends increasing the monitoring frequency of groundwater in the southern portion of the FS-1 plume to determine potential changes in the migration of ethylene dibromide (EDB) until treatment resumes. AFCEE also recommends increasing the monitoring frequency of surface water of the Quashnet River and bogs due to the potential for upwelling of contaminated groundwater until treatment of the FS-1 plume resumes. AFCEE proposes the following changes to the System Performance and Ecological Impact Monitoring (SPEIM) program for the continued monitoring of groundwater and surface water associated with the FS-1 plume until groundwater treatment resumes.													
2.0	<u>Groundwater Monitoring</u> Selected groundwater wells and piezometers in the southern portion of the FS-1 plume will be monitored for EDB on a biweekly basis during November 2002, monthly during December 2002 and January 2003, and bimonthly thereafter until groundwater treatment resumes (Figure 1, Table 1). Groundwater elevation measurements and sampling of remaining groundwater wells will continue at the frequencies and locations described in Appendix F of the <i>Final Quashnet River and Bogs 2001 Annual System Performance and Ecological Impact Monitoring Report</i> dated February 2002.													



Client, Project and Location AFCEE, MMR Plume Response Program Task Order 0006 Otis ANG Base, Massachusetts		Project Note	Task Order 0006 Project Number 35Z15616
		Note No.: 004	
Item	Remarks		Action Required By
3.0	<u>Shallow Wellpoint Monitoring</u> Fourteen shallow wellpoints (SWPs) will be monitored for EDB on a biweekly basis during November 2002, monthly during December 2002 and January 2003, and bimonthly thereafter until groundwater treatment resumes (Figure 2, Table 1).		
4.0	<u>Surface Water Monitoring</u> Surface water locations in the K1, K2, K6 bog ditches and the Quashnet River will be monitored for EDB on a biweekly basis during October through December 2002, and monthly thereafter until groundwater treatment resumes (Figure 2, Table 2). Stream gauging will continue on a quarterly basis (Figure 2, Table 2).		

Attachments: Figures 1, 2 and Tables 1, 2

Distribution:

Mike Minior, AFCEE/MMR

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Peggy Fontazzi, Land Use Permitting

Jeff Lafleur, Cape Cod Cranberry Growers Association

Brian Handy, Handy Cranberry Trust

Eric Banks, Jacobs

Lisa Allinger, Jacobs

Jeff Carman, Jacobs

Mike Goydas, Jacobs

Kirk Morris, Jacobs

Drew Tingley, Jacobs

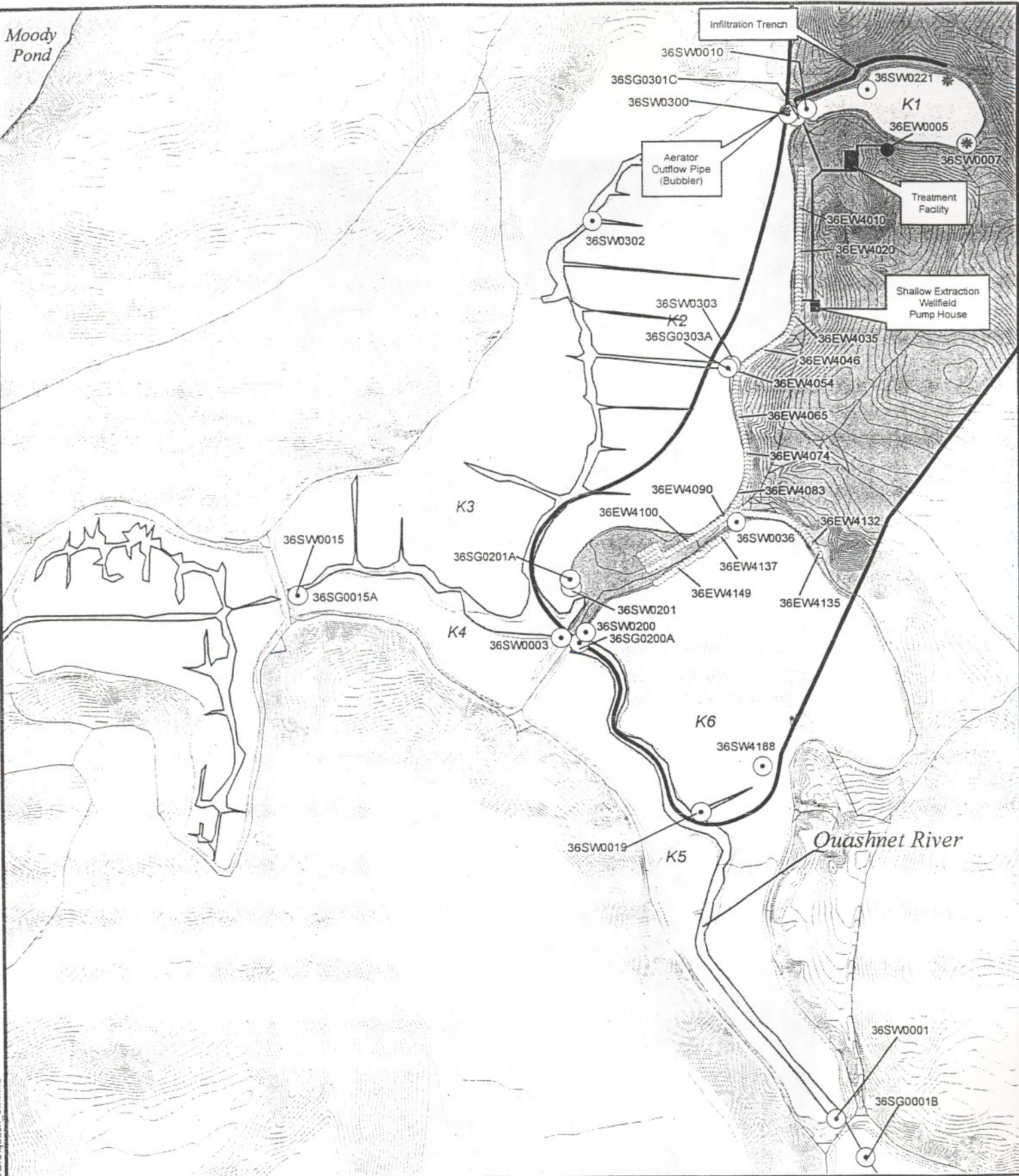
Jen Diaz, Jacobs

Katie Kowalski, Jacobs

Mike Morris, Jacobs

Document Control, Jacobs

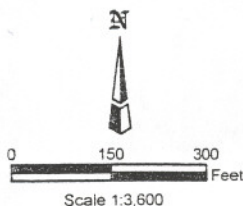
Moody Pond



Legend

- Plume Contour
(EDB MMCL = 0.02 µg/L)
(March 2002)
- Topographic Contour
Interval = 2 feet
- Cranberry Bogs

- Shallow Extraction Wellpoint
- Aerator Outflow Pipe
- Extraction Well
- Surface Water or Staff Gauge Location



JE JACOBS

Surface Water and Shallow
Wellpoint Monitoring Locations

Massachusetts Military Reservation
Cape Cod, Massachusetts

1/14/03 jp

Figure 2

Table 1
FS-1 Interim Groundwater Monitoring

Location Identification	Rationale for Selecting Sampling Location	2002 Interim Monitoring Frequency (Nov 02)	2002 Interim Monitoring Frequency (Dec 02)	2003 Interim Monitoring Frequency (Jan 03)	2003 Interim Monitoring Frequency (until treatment resumes)	Parameters
00MW0552A	South of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
00MW0552B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
00MW0552C		Quarterly	Quarterly	Quarterly	Quarterly	WL
00MW0552D		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0002 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	Quarterly	Quarterly	VOCs/metals/Field
36MW0007 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	Quarterly	Quarterly	VOCs/metals/Field
36MW0010A ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	Quarterly	Quarterly	VOCs/metals/Field
36MW0015 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	Quarterly	Quarterly	VOCs/metals/Field
36MW0131A	FS-1 interior well	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW0131B		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW0131C		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW0132A	FS-1 leading edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0132B		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0132C		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0133	Southeast of the FS-1 leading edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0135	South of the FS-1 leading edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW0136	Southeast of the FS-1 leading edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0137	West boundary of FS-1 plume	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW0138	Southeast of the FS-1 leading edge, outside plume boundary	NA	NA	NA	NA	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0139	West of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0140	East of the FS-1 plume, outside plume boundary	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0141	East of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0143	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW0501	East of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0503A	Mid-interior of FS-1 plume	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0503B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW0503C		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW0504	West of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0603A	Northern interior of FS-1 plume	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0603B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0604	West of FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1001A	Interior of FS-1 plume, leading edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW1001B		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW1003A	Interior of FS-1 plume, leading edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field

Table 1
FS-1 Interim Groundwater Monitoring

Location Identification	Rationale for Selecting Sampling Location	2002 Interim Monitoring Frequency (Nov 02)	2002 Interim Monitoring Frequency (Dec 02)	2003 Interim Monitoring Frequency (Jan 03)	2003 Interim Monitoring Frequency (until treatment resumes)	Parameters
36MW1010A	Interior of FS-1 plume	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW1010B		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW1010C		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1011A	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW1011B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW1012A	Leading edge of FS-1 plume, west side	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1012B		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW1012C		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013A	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013C		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013D		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013E		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1014A	FS-1 plume, west edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW1014B		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36MW1035	North of FS-1 Plume, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1036A	Northern interior of FS-1 plume	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1036B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1036C		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1038A	Interior of FS-1 plume	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1038B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1038C		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
		Quarterly	Quarterly	Quarterly	Quarterly	WL
36MW1039A	FS-1 plume, west edge	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1039B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1039C		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1040A	FS-1 plume, east edge	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1040B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1041A	FS-1 plume, Interior	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1041B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1041C		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1042A	North of FS-1 Plume, outside plume boundary	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1042B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1043A	Monitor the northern interior portion of the FS-1 plume (installed June 2002)	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1043B		Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field
36PZ1001	Interior of FS-1 plume, leading edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
		NA	NA	NA	NA	WL
36PZ1002A	West of FS-1 plume, leading edge	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36PZ1002B		Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36PZ1003	West boundary of FS-1 plume	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field

Table 1
FS-1 Interim Groundwater Monitoring

Location Identification	Rationale for Selecting Sampling Location	2002 Interim Monitoring Frequency (Nov 02)	2002 Interim Monitoring Frequency (Dec 02)	2003 Interim Monitoring Frequency (Jan 03)	2003 Interim Monitoring Frequency (until treatment resumes)	Parameters
36PZ1010	Interior of FS-1 plume	Quarterly	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36PZ4235	Monitor shallow groundwater in the vicinity of the vernal pool southeast of EW7 (installed April 2002)	Monthly	Monthly	Monthly	Monthly	WL
36PZ4236	Monitor shallow groundwater in the vicinity of the wetland north of Grafton Pocknet Road (installed April 2002)	Monthly	Monthly	Monthly	Monthly	WL
36PZ4237	Monitor shallow groundwater in the vicinity of the wetland east of the K-1 bog (installed June 2002)	Monthly	Monthly	Monthly	Monthly	WL
36EW4010	Monitor shallow groundwater adjacent to the K2 bog east ditch	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4020	Monitor shallow groundwater adjacent to the K2 bog east ditch	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4035	Monitor shallow groundwater adjacent to the K2 bog east ditch	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4046	Monitor shallow groundwater adjacent to the K2 bog east ditch	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4054	Monitor shallow groundwater adjacent to the K2 bog east ditch	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4065	Monitor shallow groundwater adjacent to the K2 bog east ditch	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4074	Monitor shallow groundwater adjacent to the K2 bog east ditch	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4083	Monitor shallow groundwater adjacent to the K2 bog east ditch	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4090	Monitor shallow groundwater between the K2 and K6 bogs	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4100	Monitor shallow groundwater between the K2 and K6 bogs	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4132	Monitor shallow groundwater immediately north of the K6 bog	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4135	Monitor shallow groundwater immediately north of the K6 bog	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4137	Monitor shallow groundwater along the west side of the K6 bog	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field
36EW4149	Monitor shallow groundwater along the west side of the K6 bog	Biweekly	Monthly	Monthly	Bimonthly	EDB/Field

Notes:

Shaded locations indicate changes to the SPEIM program

¹ = Source area monitoring includes volatile organic compounds, total metals, temperature, dissolved oxygen, specific conductance, pH, oxidation-reduction potential, and turbidity

Field = temperature, DO, pH, specific conductance, oxidation-reduction potential, and turbidity

EDB = ethylene dibromide

NA = not applicable

VOCs = volatile organic compounds

WL = water level

Biweekly=sampling to occur every other week

Bimonthly=sampling to occur every other month

Table 2
FS-1 Interim Surface Water Monitoring

Location Identification	Rationale for Location	2002 Interim Monitoring Frequency (Oct - Dec 02)	2003 Interim Monitoring Frequency (until treatment resumes)	Parameters
36SG0001B	Characterize flow in the Quashnet River downgradient of the bogs.	Quarterly	Quarterly	Stream Gauging
36SG0010A	Characterize flow from K1 bog.	NA	NA	WL
36SG0015A	Characterize flow in the Quashnet River upgradient of the bogs.	Quarterly	Quarterly	Stream Gauging
36SG0200A	Characterize flow in the Quashnet River (near 36SW0003).	Quarterly	Quarterly	Stream Gauging
36SG0201A	Characterize flow of the lower reach of the K2 bog east ditch.	Quarterly	Quarterly	Stream Gauging
36SG0301C	Characterize flow from K1 bog.	Quarterly	Quarterly	Stream Gauging
36SG0303A	Characterize flow of the middle reach of the K2 bog east ditch.	Quarterly	Quarterly	Stream Gauging
36SW0001	Characterize surface water downstream of the cranberry bogs.	Biweekly	Monthly	EDB, Field
36SW0003	Characterize surface water downgradient of treatment system surface discharge, Quashnet River.	Biweekly	Monthly	EDB, Field
36SW0007	Characterize surface water inflowing to the K-1 bog.	Biweekly	Monthly	EDB, Field
36SW0010	Characterize surface water of the K-1 bog discharging to the northern tributary of the Quashnet River (K-2 bog west ditch).	Hourly	Hourly	Temp, DO
		Biweekly	Monthly	EDB, Field
36SW0015	Characterize surface water of the Quashnet River entering the bogs.	Biweekly	Monthly	EDB, Field
36SW0019	Characterize surface water of the K-6 bog.	Biweekly	Monthly	EDB, Field

Table 2
FS-1 Interim Surface Water Monitoring

Location Identification	Rationale for Location	2002 Interim Monitoring Frequency (Oct - Dec 02)	2003 Interim Monitoring Frequency (until treatment resumes)	Parameters
36SW0036	Characterize surface water of the K-6 bog.	Biweekly	Monthly	EDB, Field
36SW0200	Characterize surface water of the K-2 east ditch.	Biweekly	Monthly	EDB, Field
36SW0201	Characterize surface water of the K-2 bog east ditch.	Biweekly	Monthly	EDB, Field
36SW0221	Characterize surface water of the K-1 bog north ditch.	Biweekly	Monthly	EDB, Field
36SW0300	Characterize surface water of the K-2 bog west ditch.	Hourly	Hourly	Temp, DO
		Biweekly	Monthly	EDB, Field
36SW0301	Characterize surface water downgradient of treatment system surface discharge, swale along eastern side of K-2 bog.	Biweekly	Monthly	EDB, Field
36SW0302	Characterize surface water at the area of treatment system surface discharge of the K-2 bog west ditch.	Biweekly	Monthly	EDB, Field
36SW0303	Characterize surface water of the K-2 bog east ditch.	Biweekly	Monthly	EDB, Field
36SW4188	Characterize surface water of the K-6 bog.	Biweekly	Monthly	EDB, Field

Notes:

DO = dissolved oxygen

EDB = ethylene dibromide

Field = temperature, DO, pH, specific conductance, oxidation-reduction potential, and turbidity

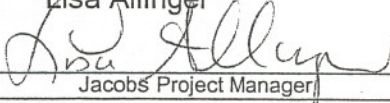
NA = not applicable

Temp = temperature

WL = water level

Biweekly=sampling to occur every other week

Client, Project and Location AFCEE, MMR Plume Response Program Task Order 0006 Otis ANG Base, Massachusetts AFCEE Contract F41624-01-D-8547	PROJECT NOTE	Task Order 0006
	Note No.: 005	

Confirmation of <input checked="" type="checkbox"/> Project Note-P1 <input type="checkbox"/> Client Meeting-P4 <input type="checkbox"/>	Date Held Location Date Issued 26 March 2003 Recorded By Kirk Morris
Subject Hydraulic Evaluation Plan for the Expanded FS-1 Remedial System	Issued By <u>Lisa Allinger</u>  Jacobs Project Manager

Participants (* Denotes Part Time Participation) Client <u>Jacobs/MMR</u> Mike Minior John Schoolfield

Item	Remarks	Action Required By
1.	Introduction This project note presents the plan for hydraulic testing and monitoring of the expanded remedial system for Fuel Spill-1 (FS-1). The system will consist of three new extraction wells (36EW0001 [EW-1], 36EW0007 [EW-7], and 36EW0011 [EW-11]) in addition to the existing well (36EW0005 [EW-5]), as presented in the <i>Final Fuel Spill-1 Wellfield Design Report</i> (AFC-J23-35S19902-M23-0005, December 2001) and shown in Figure 1. The existing shallow wellpoints (SWPs) are not used. During hydraulic testing, changes in groundwater and surface water levels in response to various pumping stresses will provide insights regarding aquifer hydraulic properties and the extent of groundwater/surface water interaction, insights which are not provided by the routine System Performance and Ecological Impact Monitoring (SPEIM) program. The primary components of the proposed work are to: <ul style="list-style-type: none"> Record water levels in monitoring wells and surface water bodies and recording stream flows during sequential startup of the extraction wells. Quantify aquifer response to the pumping stresses and delineate the three-dimensional (3-D) hydraulic zones of influence for each extraction well. Revise and recalibrate the FS-1 flow model using the hydraulic evaluation data. 	



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	<p>The goals of the hydraulic evaluation are to:</p> <ul style="list-style-type: none">• Strengthen the conceptual model of the aquifer and of the extent of groundwater/surface water interaction in the vicinity of the remedial system.• Evaluate potential drawdown in three nearby wetlands: the sphagnum bog wetland north of Grafton Pocknet Road, the wetland east of the K1 bog, and the vernal pool southwest of 36EW0007.• Verify the basis of design and predicted performance of the FS-1 wellfield, including the appropriateness of capture zones and measures of overall system performance.• Identify long-term hydraulic monitoring goals for the expanded FS-1 system. <p>The full evaluation of the FS-1 hydraulic testing data will be presented in the 2004 semiannual or annual SPEIM report.</p> <p>A pumping plan will be submitted to the Town of Mashpee documenting the effects (if any) of the remedial system on wetlands and stream flows. This report is required before the remedial system can begin normal operations. If the anticipated effects at operational flow rates exceed ecological thresholds, a reduced pumping schedule will need to be developed.</p>		
2.	<p>Background</p> <p>In April 1999, AFCEE began operating the FS-1 pilot system, consisting of one deep extraction well (EW-5) and 175 SWPs. Ethylene dibromide (EDB) was removed from extracted groundwater water with granular activated carbon, and treated water was discharged to the K2 bog west ditch via a bubbler, and to the K1 bog through an infiltration trench. During system start-up, pumping test data were collected to evaluate the hydraulic responses of the groundwater and surface water systems to the stresses imposed by EW-5 and the SWP system (<i>Final Quashnet River and Bogs Pilot Test First Quarter Report</i>, AFC-J23-35S19003-M21-0001, February 2000).</p> <p>In 2000, the FS-1 flow and transport model was developed to evaluate the pilot-system capture zone over a range of pumping rates, and to aid in designing a wellfield to remediate the FS-1 plume. The model was calibrated to the pumping test data.</p> <p>In 2001, the FS-1 wellfield design was approved. In this design, the SWPs are taken out of service and the remedial system is expanded to include three new extraction wells. The SWPs are replaced with an extraction well (EW-1) to capture the leading edge, and two extraction wells (EW-7 and EW-11) located</p>		



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	<p>north of EW-5 facilitate capture of the core of the plume. The FS-1 flow and transport model and wellfield design are presented in the <i>Final Fuel Spill-1 Wellfield Design Report</i> (AFC-J23-35S19902-M23-0005, December 2001).</p> <p>The FS-1 pilot system operated with minor modifications until October 2002, when a fire consumed the FS-1 treatment plant, temporarily halting remediation of the FS-1 plume. Additional operational history is provided in the annual SPEIM reports (<i>Final Quashnet River and Bogs 2001 Annual System Performance and Ecological Impact Monitoring Report</i>, A3P-J23-35Z01516-M31-0004, February 2002; <i>Draft Fuel Spill-1 2002 Annual System Performance and Ecological Impact Monitoring Report</i>, ENR-J23-35Z15616-M31-0001, December 2002).</p> <p>A new FS-1 treatment plant and the expanded wellfield (EW-1, EW-5, EW-7, and EW-11) are expected to be operational in late 2003. After testing to confirm that each component of the remedial system meets engineering specifications, the hydraulic response of the groundwater and surface water systems will be evaluated over a range of pumping rates and well configurations, as outlined in this project note.</p>		
3.	<p>Hydraulic Testing and Monitoring</p> <p>The hydraulic testing and monitoring plan involves shutting the system down, waiting for hydraulic equilibration, and then restarting the system one well at a time in a manner that maximizes meaningful hydraulic data while minimizing the duration of the test.</p> <p>At the start of monitoring, the extraction wells will have been operating for several weeks since the completion of engineering evaluations. The system will be shut down completely until the aquifer equilibrates to the unstressed condition, providing a baseline for comparison of subsequent head changes, and then the extraction wells will be restarted one by one, allowing the aquifer to approach steady state after each change in stress. Steady-state criteria are discussed in the next section. In the following discussion, "design rate" refers to pumping rates developed in the <i>Final Fuel Spill-1 Wellfield Design Report</i> (AFC-J23-35S19902-M23-0005, December 2001) anticipated to be effective for remediation of the FS-1 plume.</p> <p>Testing for the first two wells to be restarted, EW-1 and EW-11, will follow a stepped approach to measure aquifer response to design pumping rates and to near-maximal pumping rates. EW-1 will operate at its design rate alone for two days and then with EW-11 operating at its design rate for two days. Next, both wells will operate near their maximal rates for two days. Finally, EW-11 will return to its lower rate to permit aquifer equilibration before the next phase of the test (i.e., EW-5).</p>		



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	<p>Testing for the remaining two wells, EW-5 and EW-7, will involve pumping only at their design rates. Higher rates are not needed because aquifer response to pumping at EW-5 was thoroughly tested as part of the FS-1 pilot test startup discussed in the previous section, and EW-7 plays only a minor role in containing the plume. Additionally, there are few monitoring wells near EW-7, limiting the volume of aquifer that can be monitored. When EW-5 is activated, near-maximal pumping at EW-1 will continue for two days. This is the short-term configuration that will capture as much of the mass as possible that bypassed EW-5 during system downtime following the treatment plant fire (selected by AFCEE as being the most effective among several possibilities modeled in November 2002 in response to the treatment plant fire). Next, pumping at EW-1 will be reduced to the design rate for two days to permit aquifer equilibration before the final phase of the test. Finally, EW-7 will be activated at its design rate.</p> <p>Groundwater levels and surface water discharge and elevations will be monitored before, during, and after shutdown and startup of the remedial system. The technical approach to hydraulic monitoring is as follows:</p> <ul style="list-style-type: none">• Water levels will be collected continuously via transducers and dataloggers from 57 monitoring wells and piezometers, and manually on a daily basis from 20 monitoring wells and piezometers (Table 1 and Figure 1). This large array of locations will provide detailed 3-D coverage of the aquifer affected by the hydraulic testing, permitting high-resolution delineation of heterogeneities in hydraulic properties. Data collection will begin at least 3 days before system shutdown and will continue until steady-state is reached after the system is re-started (Table 3). At a minimum, data from the transducers will be downloaded and evaluated at 48-hour intervals.• Surface water elevations will be recorded daily at seven staff gauge locations (Figure 2 and Table 2). Data collection will begin at least 3 days before system shutdown and will continue until steady-state is reached after the system is re-started (Table 3).• Stream flow will be measured at seven locations (Figure 2 and Table 2). Measurements will be made five times during the hydraulic evaluation: (1) before system shutdown, (2) at the end of the shutdown period, (3) after EW-1 is pumping at a flow rate of 150 gpm, (4) after EW-1 is pumping at a flow rate of 300 gpm, and (5) after the extraction wells are operating at their designed flow rates (Table 3).		



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	<ul style="list-style-type: none">• Pumping rates of EW-1, EW-5, EW-7, and EW-11 will be recorded using equipment integral to the treatment plant. The detailed schedule and flow rates are presented in Table 3 and discussed in the next section.• An on-site rain gauge will be used to measure precipitation during the monitoring period. Precipitation readings will be recorded at least daily throughout the monitoring period, and will be recorded more frequently on rainy days.• Barometric pressure records for the duration of the hydraulic evaluation will be obtained from the National Weather Service station at Otis ANG Base. <p>External influences on the hydraulic system will be avoided as much as possible. Avoidable external influences include bog flooding, bog irrigation, river manipulation such as adding or removing weir boards, ditch maintenance, and heavy equipment traffic. Bog operations are minimal during the early fall, but flooding may commence in December. If it is not possible to complete the hydraulic testing before flooding, the testing should be postponed until spring when bog operations are again minimal. In the interim, the expanded wellfield would be operated in the short-term configuration (EW-1 at 300 gpm, EW-11 at 200 gpm, EW-5 at 250 gpm, and EW-7 off) pending temporary approval from the Town of Mashpee. The Town of Mashpee is primarily concerned with drawdowns to the three nearby wetlands.</p> <p>Additional guidance for conducting pumping tests is contained in MMR technical procedure Tech-009, <i>Aquifer Pumping Test</i> (AFCEE, September 2000. <i>Quality Program Plan</i>. AFC-J23-35Q85101-M3-0002).</p>		
4.	Detailed Timeline <p>The likely timeframe for the shutdown is the end of October or beginning of November 2003, several weeks after engineering evaluations are completed. The sequence of events is detailed in Table 3. At the start of monitoring, the extraction wells will presumably have been operating for several weeks at constant flow rates. Pumping will continue at those rates for three days while the long-term steady-state head distribution, surface water elevations, and stream flows are determined. After this period, the following changes to pumping rates will be made:</p> <ul style="list-style-type: none">• All four extraction wells will be shut down for four days or until steady state has been reached, providing a baseline under unstressed conditions to be used for analyzing drawdowns during the subsequent phases of the hydraulic test. Groundwater and surface water elevations will continue to be monitored, and stream flows will be measured at the end of this period.		



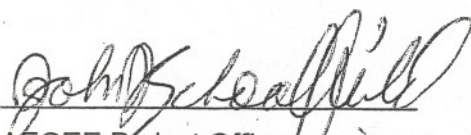


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		Note No.: 005	
Item	Remarks		Action Required By
	<ul style="list-style-type: none">EW-1 will begin pumping alone after the shutdown period. EW-1 will be operated at a flow rate of 150 gpm for two days or until steady state is reached. Groundwater and surface water elevations will continue to be monitored, and stream flows will be measured at the end of this period.The EW-1 and EW-11 step-up test will begin with EW-1 continuing to pump at 150 gpm. EW-11 will be turned on, pumping at 200 gpm for two days or until steady state is reached. Next, pumping rates will be increased to 300 gpm at EW-1 and 350 gpm at EW-11 for two days or until steady state is reached. Finally, the EW-11 pumping rate will be reduced to 200 gpm for two days or until steady state is reached. This final configuration will permit thorough hydraulic equilibration before the EW-5 test. Groundwater and surface water elevations will continue to be monitored for all steps, and stream flows will be measured at the end of the middle (high pumping rate) step when any impacts will be maximal. The step-up test is needed because EW-1 is located at the leading edge of the plume, beneath the K6 bog, where it may strongly affect surface water flows. Additionally, EW-1 may be operated at 300 gpm to capture contaminant mass that bypassed EW-5 following the treatment plant fire and subsequent shutdown. For EW-11, the step-up test is needed for thorough evaluation of hydraulic properties in the core of the plume.The EW-5 test will begin with EW-1 and EW-11 continuing to pump at 300 gpm and 200 gpm, respectively. EW-5 will be turned on, pumping at 250 gpm for two days or until steady state is reached. Groundwater and surface water elevations will continue to be monitored, but stream flows will not be measured because EW-5 is adjacent to the discharge bubbler and infiltration trench for treated water, and thus should not have a net negative effect on stream flows. A stepped test is not needed for this well because of the extensive data set collected for it during startup of the pilot system in 1999. The system configuration for this test, with its high rate at EW-1, is the same as the short-term configuration needed to capture contaminant mass that bypassed EW-5 following the treatment plant fire and subsequent shutdown. The EW-5 test will conclude with pumping at EW-1 reduced to 150 gpm for two days or until steady state is reached, to achieve thorough equilibration of the aquifer before the EW-7 test.The EW-7 test will begin with EW-5 and EW-11 continuing to pump at 250 gpm and 200 gpm, while reducing pumping at EW-1 to 150 gpm. EW-7 will be turned on, pumping at 150 gpm. Groundwater and surface water elevations will continue to be monitored for four days or until steady state is reached, at which point stream flows will be measured. A		



Client, Project and Location		PROJECT NOTE	Task Order 0006 Project Number 35Z15616
AFCEE, MMR Plume Response Program Task Order 0006 Otis ANG Base, Massachusetts			
		Note No.: 005	
Item	Remarks	Action Required By	
	<p>stepped test is not needed for EW-7 because this well plays only a minor role in remediation of the FS-1 plume, capturing only the eastern edge of the plume which otherwise might bypass EW-5 before eventually being captured by EW-1. This concludes hydraulic testing, and the well field is ready to continue normal operations.</p> <p>At a minimum, this hydraulic evaluation will require 23 days to complete. More time may be required if steady state has not been reached at the end of the allotted time for each pumping regime. Steady state will be assumed to have been reached when heads change less than 0.05 ft in two hours in near-field monitoring wells. The following wells will be monitored to determine whether steady state has been reached:</p> <ul style="list-style-type: none">• 36MW0132A,B,C for EW-1,• 36MW1003A, 36PZ1003 for EW-5,• 36MW0140 for EW-7, and• 36MW1038A,B,C for EW-11 <p>After all four wells have been restarted (i.e., the EW-7 pumping test), monitoring will continue until water levels stabilize to at least 90 percent of pre-shutdown levels, and until the measured water level change is less than 0.05 ft within two hours for near-field wells.</p>		
5.	<p>Data Interpretation</p> <p>Hydraulic data will be compiled and analyzed using an approach similar to that used for other remedial systems at MMR:</p> <ul style="list-style-type: none">• Response curves in representative monitoring wells will be analyzed using standard analytical tools to estimate aquifer hydraulic properties.• The FS-1 groundwater flow model will be recalibrated using the hydraulic monitoring data. The model will be used to estimate the capture zone of the remedial system.• A new plume shell utilizing the most recent chemical data will be developed for the FS-1 plume. (The current plume shell was developed in October 2000 and thus requires updating.)• The model and plume shell will be used to assess likely system performance, verify the wellfield design, and suggest modifications to improve system effectiveness.• Groundwater drawdown will be evaluated throughout the aquifer based on field observations and the calibrated flow model. At the water table, drawdown contours will be used to identify what impacts, if any,		



Client, Project and Location		PROJECT NOTE	Task Order 0006 Project Number 35Z15616
AFCEE, MMR Plume Response Program Task Order 0006 Otis ANG Base, Massachusetts			Note No.: 005
Item	Remarks	Action Required By	
	<p>groundwater extraction is having on the nearby wetlands and surface waters.</p> <ul style="list-style-type: none">Objectives for continued hydraulic performance monitoring will be developed, and a monitoring network and program will be proposed to meet those objectives. <p>In the event that preliminary analysis of the data indicates that operational flow rates (design rates or the short-term rates) would likely cause unacceptable drawdown in one or more of the nearby wetlands or surface water bodies, flow rates may be reduced to the point that such drawdowns are eliminated while the full analysis is conducted. If these drawdowns are confirmed, an alternative pumping design meeting drawdown criteria will be developed and presented to the EPA, the DEP, and the Town of Mashpee for approval.</p>		
6.	Reporting The data and the interpretation will be presented during bi-weekly technical update meetings with the regulatory agencies, as a pumping plan to the Town of Mashpee Conservation Commission, and in the 2004 annual or semiannual FS-1 SPEIM report. No changes to system operation or monitoring programs would be implemented until this documentation has been through regulatory and stakeholder review.		
7.	Concurrence Concurrence with the above FS-1 remedial system hydraulic evaluation is represented by the signatures below: <div style="display: flex; justify-content: space-around;"><div> 3/26/03 EPA Representative</div><div> 3/26/03 DEP Representative</div></div> <div style="text-align: center;"> AFCEE Project Officer 3-26-03</div>		



Client, Project and Location		PROJECT NOTE	Task Order 0006 Project Number 35Z15616
AFCEE, MMR Plume Response Program Task Order 0006 Otis ANG Base, Massachusetts			
		Note No.: 005	
Item	Remarks	Action Required By	

Attachments: Figure 1 and Figure 2; Table 1, Table 2 and Table 3

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Table 1
FS-1 System Hydraulic Evaluation Pumping Test Groundwater Monitoring

Location	Easting (ft)	Northing (ft)	Screen Length (ft)	Mid-Screen Elevation (ft msl)	Offset from 36EW0001 (ft)		Offset from 36EW0005 (ft)		Offset from 36EW0007 (ft)		Offset from 36EW0011 (ft)	
					Radial	Vertical	Radial	Vertical	Radial	Vertical	Radial	Vertical
Extraction Wells												
36EW0001	871747	233767	120	-70	0	0	878	48	1289	40	1653	50
36EW0005	872017	234603	62	-118	878	-48	0	0	579	-8	796	2
36EW0007	872577	234753	60	-110	1289	-40	579	8	0	0	499	10
36EW0011	872489	235245	60	-120	1653	-50	796	-2	499	-10	0	0
Monitoring Wells with Transducers and Data Loggers												
36EW4001	871818	234557	3	16	793	86	205	134	784	126	961	136
36EW4044	871750	234152	3	17	385	87	524	135	1022	127	1319	137
36EW4090	871636	233754	3	15	112	85	930	133	1372	125	1717	135
36EW4129	871822	233715	3	18	91	88	909	136	1283	128	1668	138
36EW4139	871613	233695	3	19	152	89	994	137	1431	129	1780	139
36MW0131A	872236	234440	5	-130	832	-60	272	-13	463	-20	844	-10
36MW0131B	872228	234440	5	-83	827	-13	267	34	469	27	846	37
36MW0131C	872228	234439	5	-34	827	36	267	83	469	76	846	86
36MW0132A	871754	233922	5	-133	155	-63	730	-16	1170	-23	1513	-13
36MW0132B	871754	233922	5	-83	155	-13	730	34	1170	27	1514	37
36MW0132C	871754	233936	5	-26	169	44	717	92	1160	84	1501	94
36MW0133	871815	233262	5	-23	509	47	1356	94	1674	87	2094	97
36MW0135	871320	233628	5	-143	449	-73	1199	-25	1687	-33	1995	-23
36MW0136	872069	233717	5	-92	326	-22	887	26	1154	18	1584	28
36MW0137	871873	235103	5	-50	1342	20	520	67	786	60	632	70
36MW0138	872185	233553	5	-92	488	-22	1063	25	1263	18	1719	28
36MW0139	871638	235175	5	-50	1412	20	686	67	1029	60	854	70
36MW0140	872715	234665	5	-87	1320	-17	700	30	164	23	622	33
36MW0141	873858	235522	5	-122	2745	-52	2057	-5	1494	-12	1396	-2
36MW0501	872994	237066	5	-69	3527	1	2650	48	2351	41	1890	51
36MW1001A	871589	233707	5	-113	169	-43	993	5	1439	-3	1781	7
36MW1001B	871582	233701	5	-63	178	7	1001	55	1448	47	1790	57
36MW1003A	871920	234670	5	-115	919	-45	118	2	662	-5	809	5
36MW1010A	872068	234896	10	-176	1174	-106	297	-59	528	-66	547	-56
36MW1010B	872071	234922	5	-112	1199	-42	323	6	533	-2	528	8
36MW1010C	872068	234896	5	-34	1174	36	297	84	528	76	547	86
36MW1012A	871824	234298	5	-109	536	-39	361	9	880	1	1157	11
36MW1012B	871825	234304	5	-37	543	33	355	80	876	73	1151	83
36MW1012C	871825	234304	5	18	542	88	355	136	876	128	1151	138
36MW1013A	872713	234164	5	-110	1045	-40	823	7	605	0	1104	10
36MW1013B	872713	234164	5	-70	1045	0	823	47	604	40	1103	50
36MW1013C	872713	234155	5	25	1041	95	828	142	613	135	1112	145
36MW1013D	872702	234167	5	-169	1035	-99	811	-52	599	-59	1098	-49
36MW1013E	872702	234168	5	-134	1036	-64	811	-17	598	-24	1097	-14
36MW1014A	871830	234611	5	-60	848	10	188	58	760	50	914	60
36MW1014B	871829	234607	5	16	844	86	188	133	762	126	917	136
36MW1037A	872266	236716	5	-137	2994	-67	2128	-20	1987	-27	1488	-17
36MW1037B	872265	236708	5	-110	2986	-40	2120	8	1980	0	1481	10
36MW1037C	872265	236716	5	-31	2994	39	2127	86	1987	79	1488	89
36MW1038A	872357	235573	5	-145	1906	-75	1028	-28	849	-35	354	-25
36MW1038B	872350	235567	5	-105	1898	-35	1020	13	845	5	351	15
36MW1038C	872363	235578	5	5	1913	75	1035	123	852	115	357	125
36MW1040A	872945	235648	5	-152	2230	-82	1397	-34	968	-42	609	-32
36MW1040B	872953	235647	5	-66	2234	4	1402	51	970	44	614	54
36MW1041A	872659	235745	5	-128	2178	-58	1310	-10	995	-18	528	-8
36MW1041B	872650	235745	5	-58	2174	12	1306	59	994	52	526	62
36MW1041C	872650	235745	5	-38	2174	32	1305	79	994	72	525	82
36MW1044A ¹	872510	235196	10	-145	1746	-75	943	-27	476	-35	266	-25
36MW1044B ¹	872510	235196	10	-85	1746	-15	943	33	476	25	266	35
36PZ1001	871589	233707	5	29	169	99	993	147	1438	139	1781	149
36PZ1002A	871664	234086	5	-94	329	-24	626	24	1131	16	1423	26
36PZ1002B	871664	234086	5	29	329	99	626	147	1131	139	1423	149
36PZ1003	871920	234670	5	32	919	102	118	150	662	142	809	152
36PZ1010	872069	234896	5	22	1174	92	297	139	528	132	546	142
36PZ4235	872383	234365	3	39	873	109	436	156	433	149	886	159

Table 1
FS-1 System Hydraulic Evaluation Pumping Test Groundwater Monitoring

Location	Easting (ft)	Northing (ft)	Screen Length (ft)	Mid-Screen Elevation (ft msl)	Offset from 36EW0001 (ft)		Offset from 36EW0005 (ft)		Offset from 36EW0007 (ft)		Offset from 36EW0011 (ft)	
					Radial	Vertical	Radial	Vertical	Radial	Vertical	Radial	Vertical
36PZ4236	872099	235026	3	39	1307	109	431	156	550	149	447	159
36PZ4237	872231	234605	2	32	967	102	214	149	377	142	690	152
<i>Monitoring Wells to be Measured Manually</i>												
00MW0552A	871964	232375	5	-80	1409	-10	2228	37	2456	30	2917	40
00MW0552B	871968	232369	5	-50	1415	20	2234	68	2461	60	2922	70
00MW0552C	871955	232385	5	-23	1398	47	2219	94	2448	87	2909	97
00MW0552D	871961	232380	10	28	1403	98	2224	146	2452	138	2913	148
36MW0143	871161	233279	5	-133	763	-63	1577	-15	2044	-23	2372	-13
36MW0503A	872331	236911	5	-89	3198	-19	2330	28	2172	21	1674	31
36MW0503B	872337	236913	5	-44	3201	26	2333	73	2174	66	1676	76
36MW0503C	872343	236914	5	-15	3203	55	2334	103	2173	95	1676	105
36MW0504	871836	236799	5	-101	3033	-31	2204	17	2176	9	1686	19
36MW1011A	871376	233120	5	-63	746	7	1616	55	2027	47	2399	57
36MW1011B	871368	233131	5	12	740	82	1609	130	2023	122	2393	132
36MW1035	871823	239982	5	-76	6215	-6	5382	42	5283	34	4784	44
36MW1036A	872114	238793	5	-153	5039	-83	4191	-35	4066	-43	3568	-33
36MW1036B	872105	238790	5	-114	5036	-44	4188	4	4065	-4	3566	6
36MW1036C	872115	238793	5	-65	5040	5	4191	53	4066	45	3568	55
36MW1039A	872097	236726	5	-150	2979	-80	2124	-32	2030	-40	1532	-30
36MW1039B	872100	236715	5	-90	2969	-20	2114	28	2019	20	1521	30
36MW1039C	872097	236726	5	-40	2979	30	2124	78	2030	70	1532	80
36MW1043A	872399	237500	5	-148	3789	-78	2922	-30	2752	-38	2257	-28
36MW1043B	872399	237499	5	-58	3789	12	2922	60	2752	52	2257	62

Notes:

ft = feet

ft msl = feet mean sea level

¹ Proposed well, not installed as of date of issue of this project note. Location coordinates and screen interval depths are estimates.

Table 2
FS-1 System Hydraulic Evaluation Surface Water Elevation and
Flow Monitoring Locations

Location	Rational for Location	Parameter Monitored	Frequency
36SG0001B	Monitor the elevation and flow of the Quashnet River exiting the developed bogs area	WL	Daily
		Flow	Five times*
36SG0010A	Monitor the elevation and flow from the K1 bog ditches	WL	Daily
		Flow	Five times*
36SG0015A	Monitor the elevation and flow of the Quashnet River as it enters the developed bogs area	WL	Daily
		Flow	Five times*
36SG0200A	Monitor the elevation and flow of the Quashnet River mid-way from 36SG0015A and 36SG0001B	WL	Daily
		Flow	Five times*
36SG0201A	Monitor the elevation and flow of the lower reach of the K2 bog east ditch	WL	Daily
		Flow	Five times*
36SG0301C	Monitoring the elevation and flow of the upper reach of the K2 bog west ditch	WL	Daily
		Flow	Five times*
36SG0303A	Monitoring the elevation and flow of the middle reach of the K2 bog east ditch	WL	Daily
		Flow	Five times*

Notes: WL = water level

gpm =gallons per minute

* Stream flows will be measured before shutdown, at the end of shutdown, and when steady state is reached following EW-1 startup at 150 gpm, EW-1 increased to 300 gpm, and EW-7 startup (with all wells online).

Table 3
FS-1 Hydraulic System Evaluation Pumping and Monitoring Schedule

	Day																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	Pre-Test ¹			Shutdown				EW-1 Test		EW-1 and EW-11 Step-up Test						EW-5 Test (with EW-1 and EW-11)			EW-7 Test (Full System)				
Extraction Well Pumping Rates (gpm)																							
36EW0001 (EW-1)	150							150		150		300		300		300		150		150			
36EW0011 (EW-11)	200									200		350		200		200		200		200			
36EW0005 (EW-5)	250															250		250		250			
36EW0007 (EW-7)	150																			150			
Total	750			0				150		350		650		500		750		600		750			
Hydraulic Monitoring																							
Automatic data loggers	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Manual groundwater elevations	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Manual surface water elevations	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Manual surface water flow rates			X				X		X				X										X

Notes

1. Actual flow rates may differ.
2. gpm = gallons per minute

FS-1 Source Area

Massachusetts Military Reservation

MMR Boundary

Abandoned Cranberry Bog/Sphagnum Bog

Moody Pond





Johns Pond








FS-1 Plume

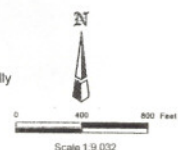
Wetland

Vernal Pool

Legend

-  Proposed Monitoring Well
-  Piezometer
-  Extraction Well
-  Extraction Well - (to be constructed) To Be Measured by Data Logger

-  Wetland
-  Bog
-  MMR Boundary
-  Plume Contour (EDB MMCL = 0.02 µg/L)
-  Proposed Mashpee Water Supply Well (P11)
-  Wells Measured by Data Logger
-  Wells Measured Manually

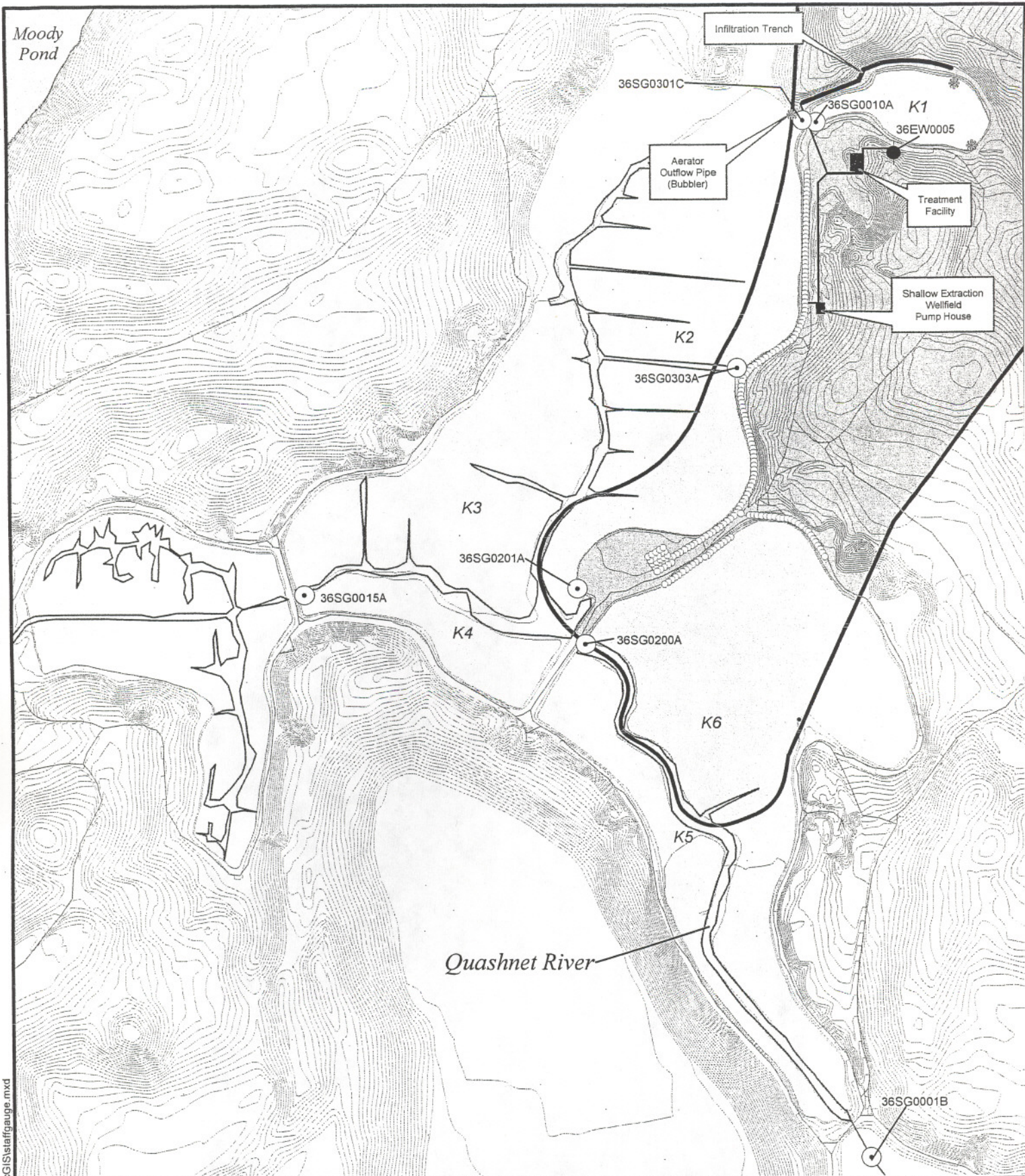


JACOBS

FS-1 Groundwater Hydraulic Testing and Monitoring Locations

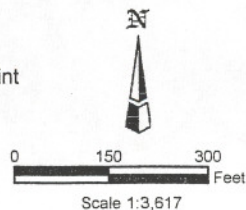
Massachusetts Military Reservation
Cape Cod, Massachusetts

Moody Pond



Legend

- Plume Contour (EDB MMCL = 0.02 $\mu\text{g/L}$)
- Topographic Contour Interval = 2 feet
- Cranberry Bogs
- Staff Gauge Location
- Shallow Extraction Wellpoint
- Aerator Outflow Pipe
- Extraction Well

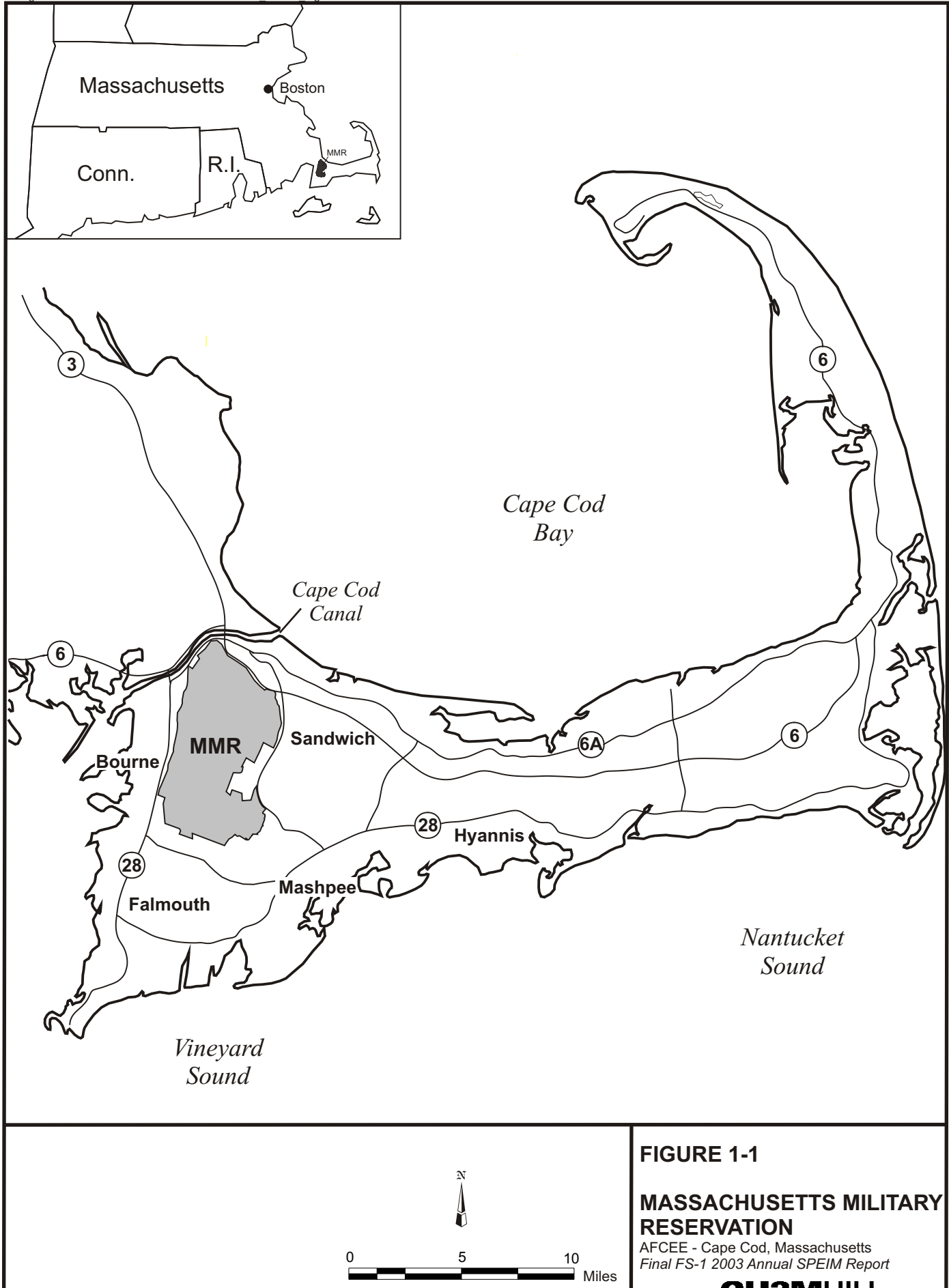


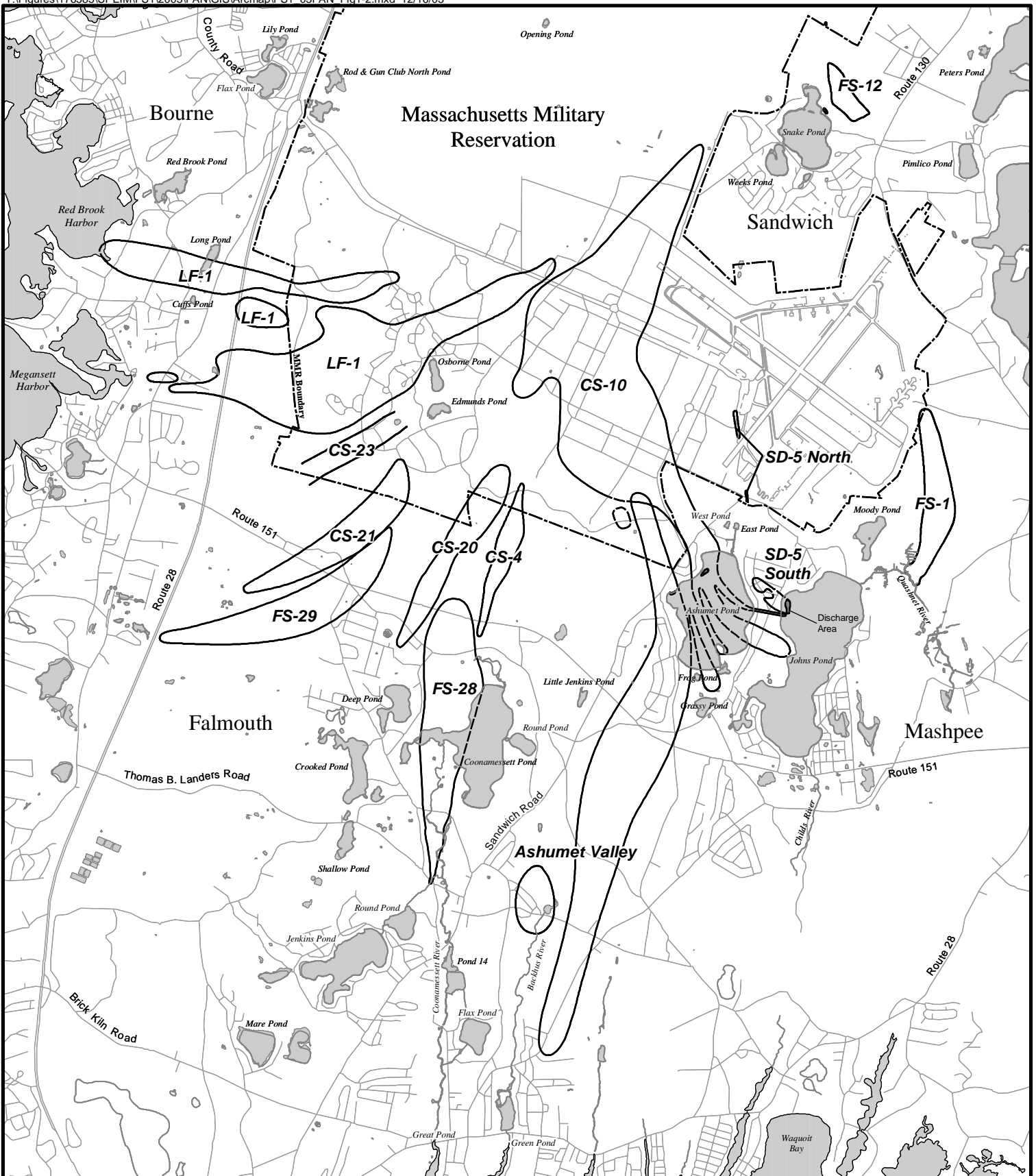
JE JACOBS

FS-1 Surface Water Elevation and Flow Monitoring Locations (Hydraulic Testing and Monitoring)
Massachusetts Military Reservation
Cape Cod, Massachusetts

2/4/03 jp

Figure 2





Legend

- Plume Outline (dashed where inferred)
- - - MMR Boundary

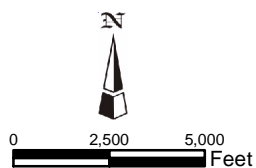
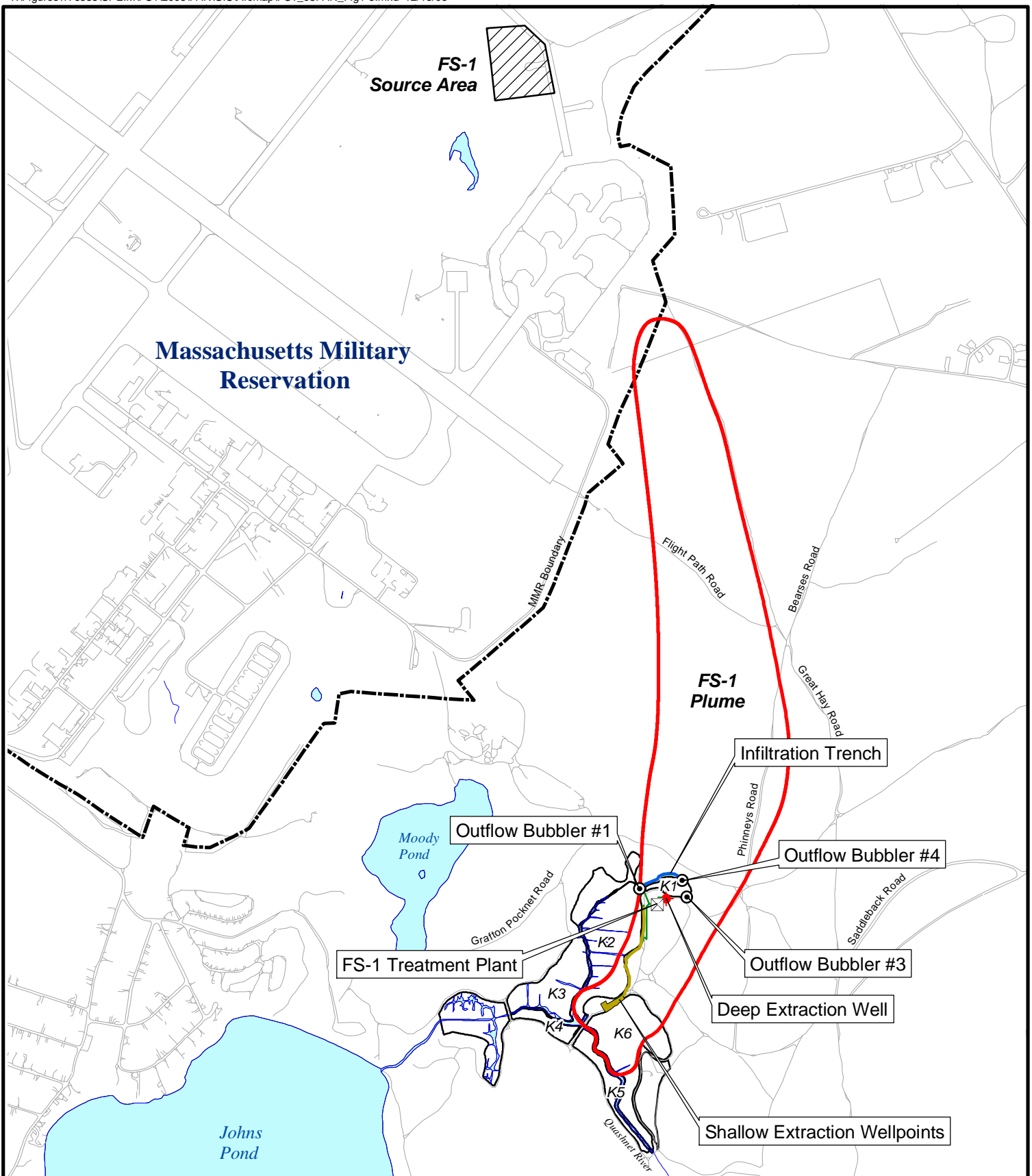


FIGURE 1-2

MMR PLUME MAP

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report



Legend

- | | | | |
|--|---|--|--|
| | Outflow Bubbler | | Source Area |
| | Extraction Well | | Bogs and Wetlands |
| | Treatment Plant | | Area of 175 Shallow-well Extraction Points |
| | Infiltration Trenches | | Treatment System Piping |
| | FS-1 Plume Boundary
(EDB MMCL = 0.02 µg/L)
(March 2003) | | MMR Boundary |

Data Source: AFCEE, MMR-AFCEE Data Warehouse

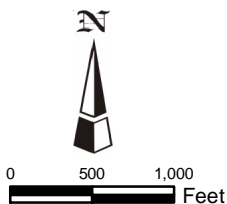
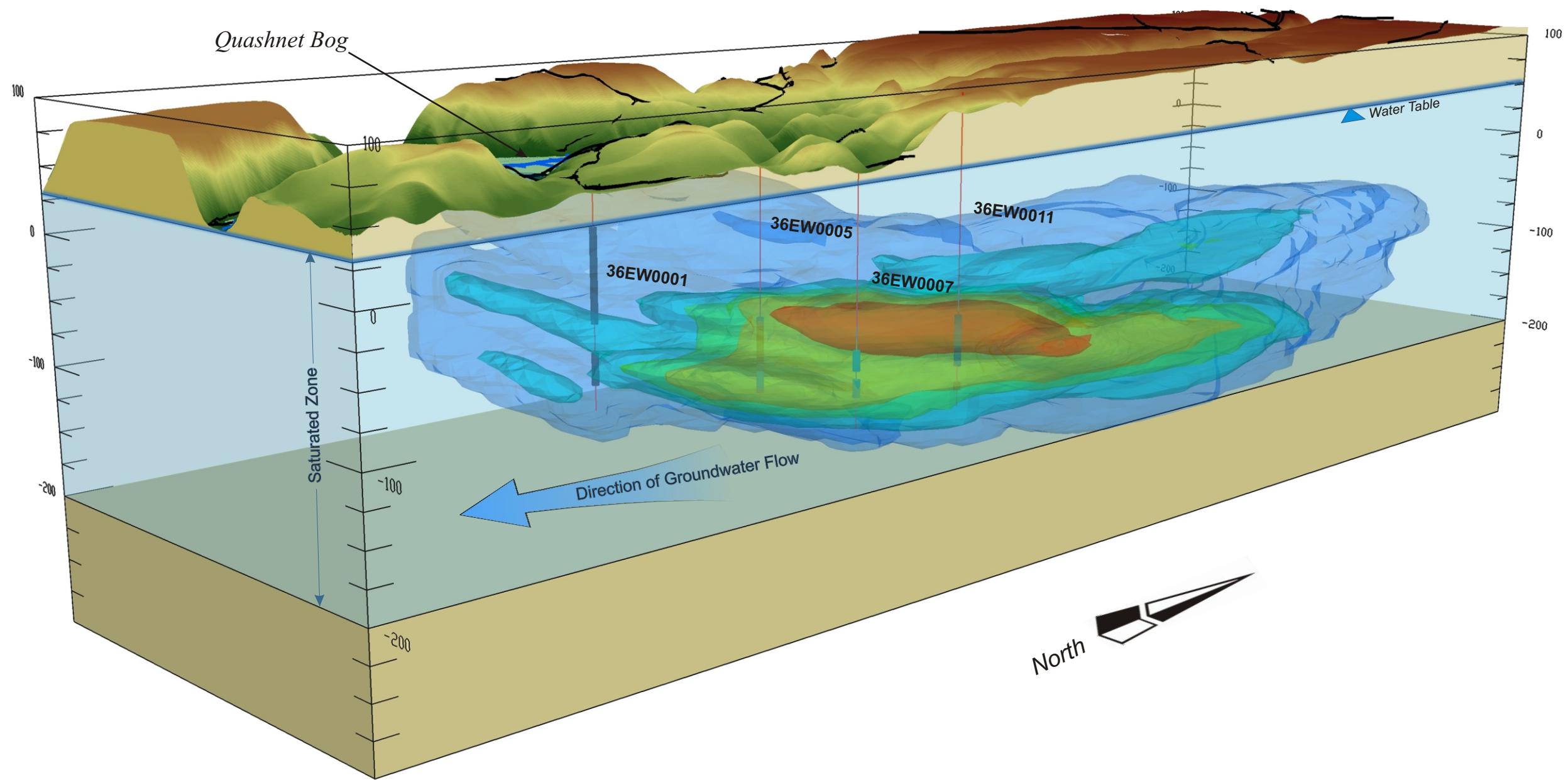


FIGURE 1-3

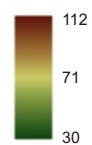
FS-1 PLUME AND LOCATION OF TREATMENT SYSTEM

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report

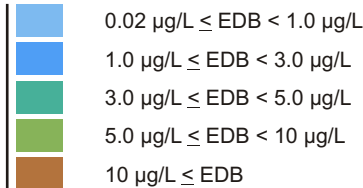


Legend

**Topographic Contour
Elevation (Feet MSL)**



**EDB Concentration
(based on 2003
plume shell model)**

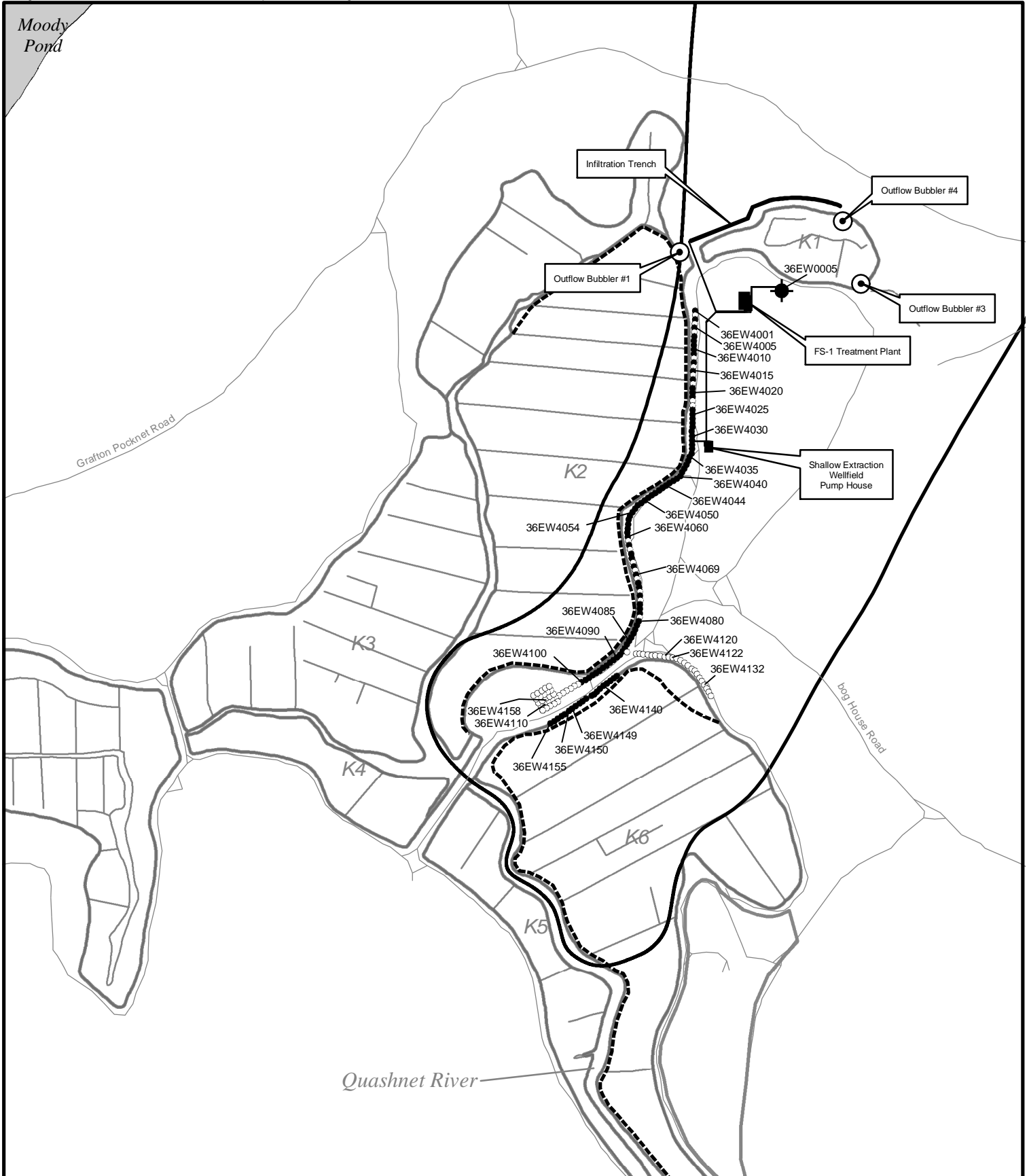


MSL Mean Sea Level
MMCL Massachusetts Maximum Contaminant Level
EDB Ethylene Dibromide
µg/L Micrograms Per Liter
EDB MMCL = 0.02 µg/L

*Note: This figure is representational and is not to a uniform scale.








FIGURE 1-4

**FS-1 PLUME CONCEPTUAL MODEL INCLUDING
FINAL FS-1 REMEDIAL SYSTEM EXTRACTION WELLS**
AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report



Data Source: AFCEE, MMR-AFCEE Data Warehouse

Legend

- | | | | |
|---|---|---|---|
|  | FS-1 Plume Boundary
(EDB MMCL = 0.02 µg/L)
(March 2003) |  | Shallow Extraction Wellpoint
"ON" as of January 2002 |
|  | Berm |  | "OFF" as of January 2002 |
|  | Bogs and Wetlands |  | Outflow Bubbler |
| | |  | Extraction Well |

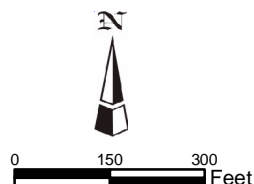
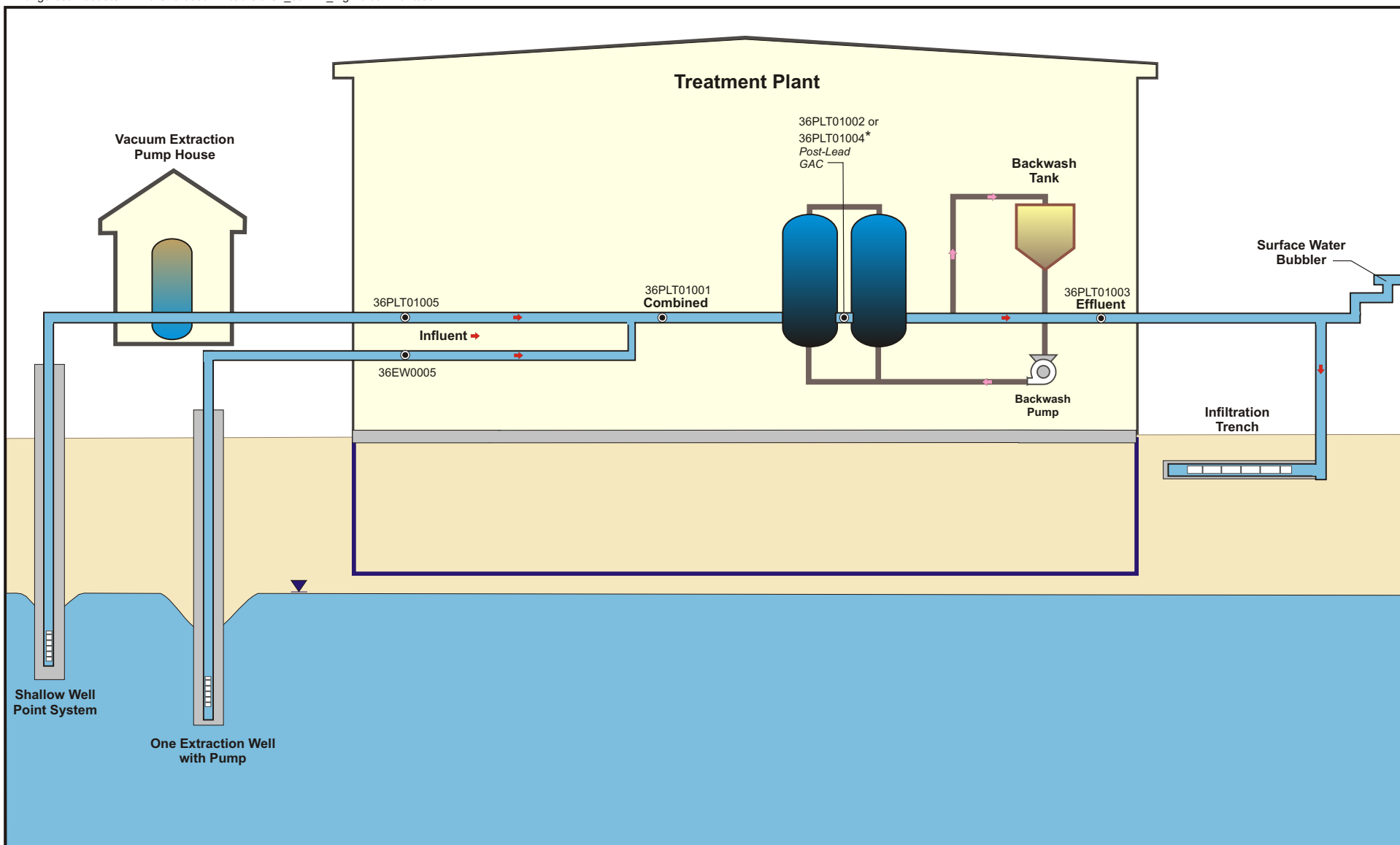


FIGURE 1-5

FS-1 SHALLOW WELLPOINT SYSTEM CONFIGURATION

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Legend

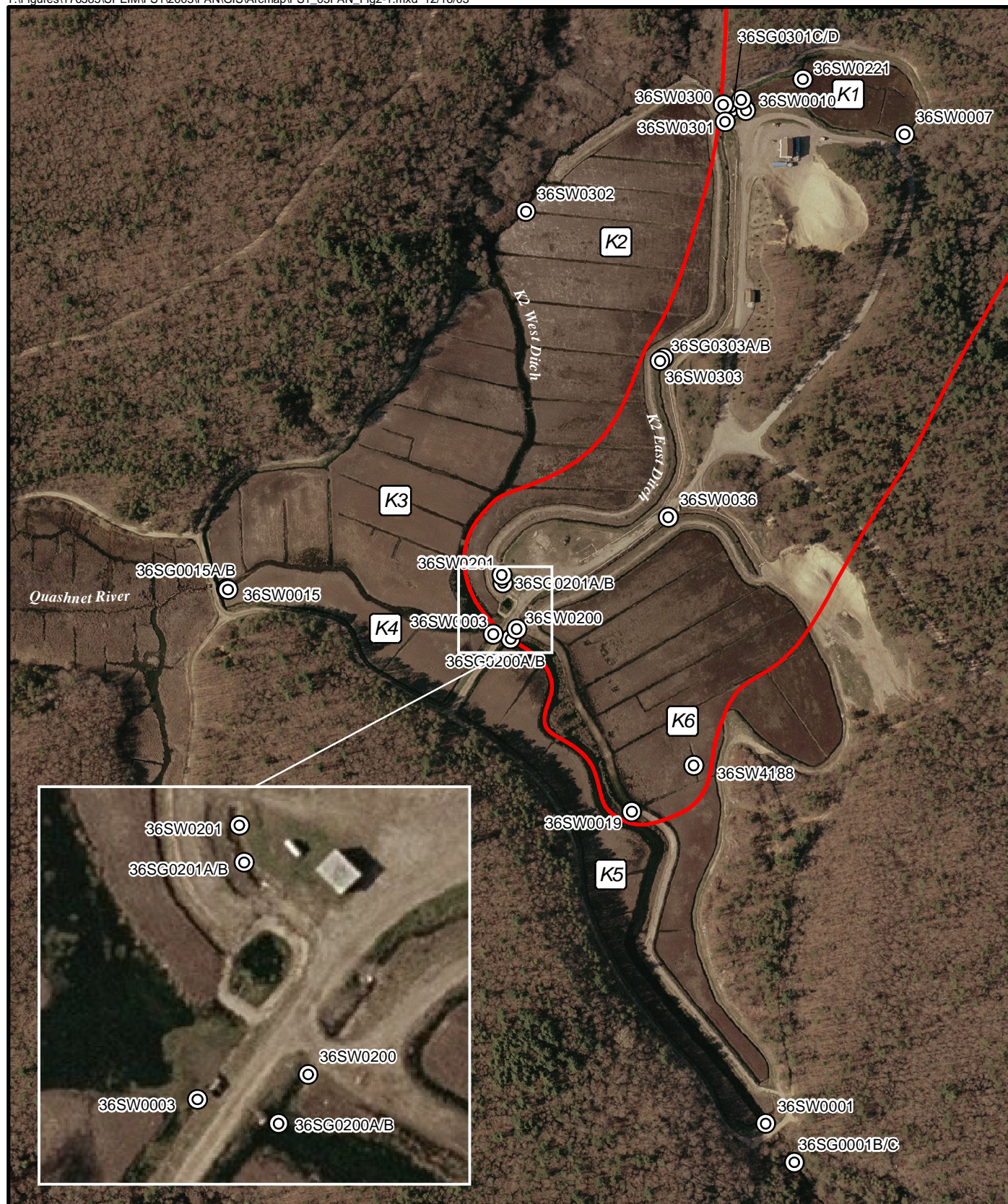
- Sampling Location
- ▼ Water Table
- GAC Granular Activated Carbon

* Post-lead GAC sampling port changes depending on which GAC vessel is in lead position.

FIGURE 1-6

PROCESS FLOW DIAGRAM WITH SAMPLING LOCATIONS, FS-1 TREATMENT SYSTEM PRIOR TO OCTOBER 2002

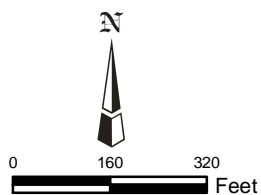
AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report



Legend

- FS-1 Plume Boundary
(EDB MMCL = 0.02 µg/L) (March 2003)
- ⊙ Surface Water or Staff Gauge Location

Data Source: AFCEE, MMR-AFCEE Data Warehouse September 2002
Letter designator associated with staff gauge locations is related to date of survey



Spring 2002 Aerial Photography from MA ARNG









FIGURE 2-1



QUASHNET RIVER AND BOGS SURFACE WATER MONITORING LOCATIONS

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Legend









	Extraction Well		Source Area
	Monitoring Well		Bogs and Wetlands
	Piezometer		MMR Boundary
	Proposed Mashpee Water Supply Well		FS-1 Plume Boundary (EDB MMCL = 0.02 µg/L (March 2003))





0 410 820 Feet

FS-1 GROUNDWATER ELEVATION MONITORING LOCATIONS

CH2MHILL

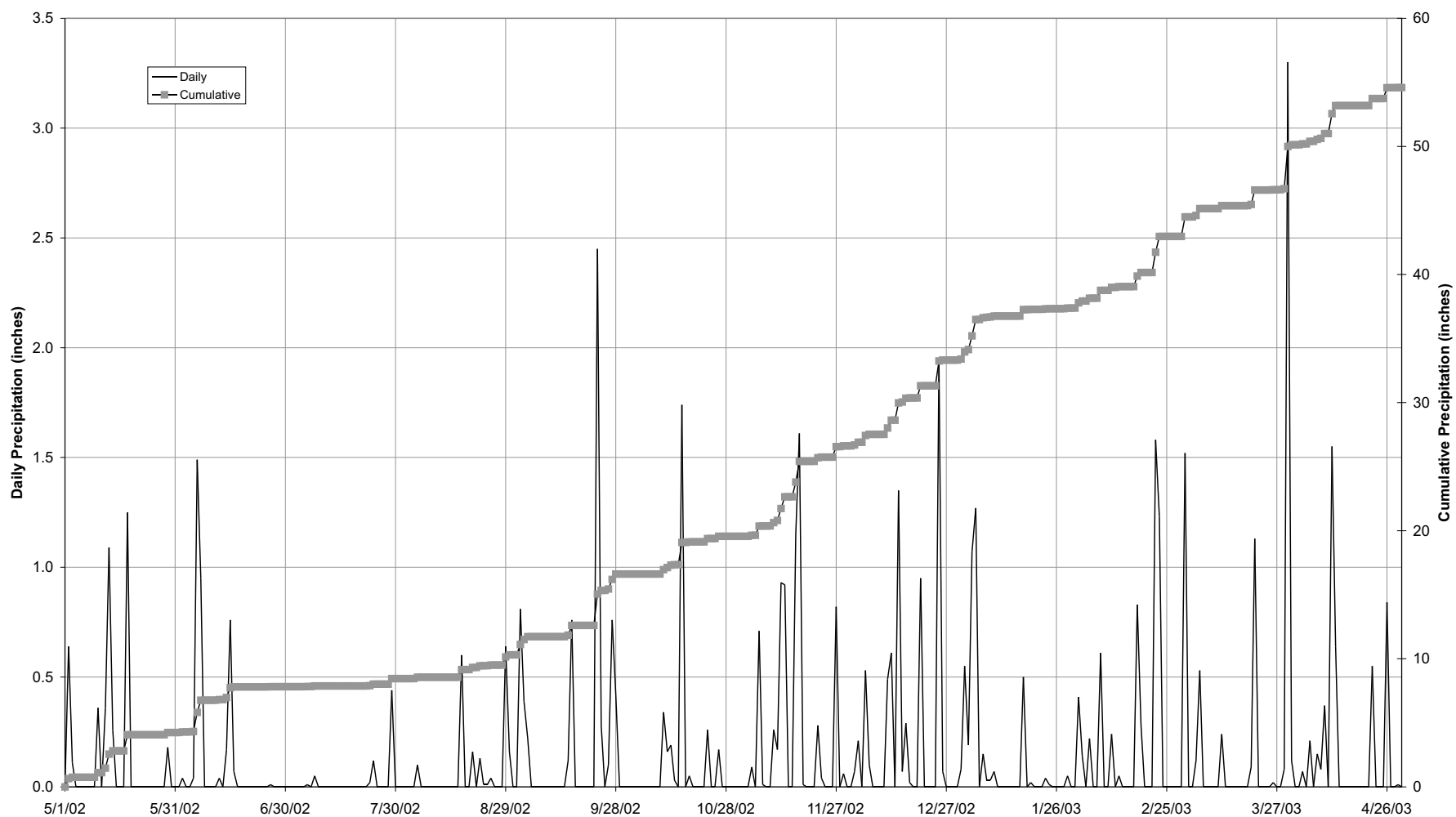
Legend

	Extraction Well		Source Area
	Monitoring Well		Bogs and Wetlands
	Piezometer		MMR Boundary
	Proposed Mashpee Water Supply Well		FS-1 Plume Boundary (EDB MMCL = 0.02 µg/L) (March 2003)

0 375 750 Feet

**FS-1 GROUNDWATER
MONITORING LOCATIONS**
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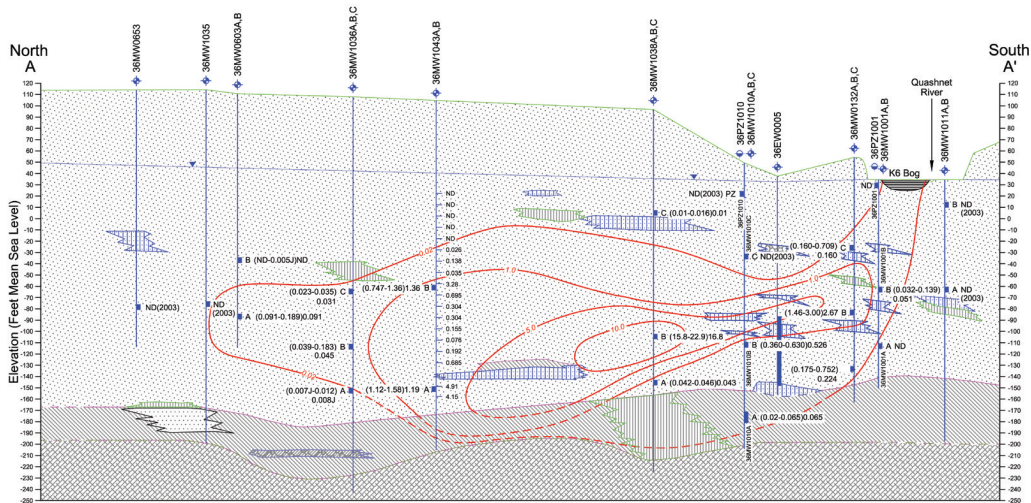


Legend

Data Source: WWW.NOAA.COM

FIGURE 3-1
FS-1 PRECIPITATION
BETWEEN
MAY 2002 AND APRIL 2003

AFCEE - Massachusetts Military Reservation
 Final FS-1 2003 Annual SPEIM Report



Legend

- Monitoring Well
- Piezometer
- Well Screen
- ND Nondetect
- Water Table
- EDB Isoconcentration Contour in micrograms per liter (µg/L)

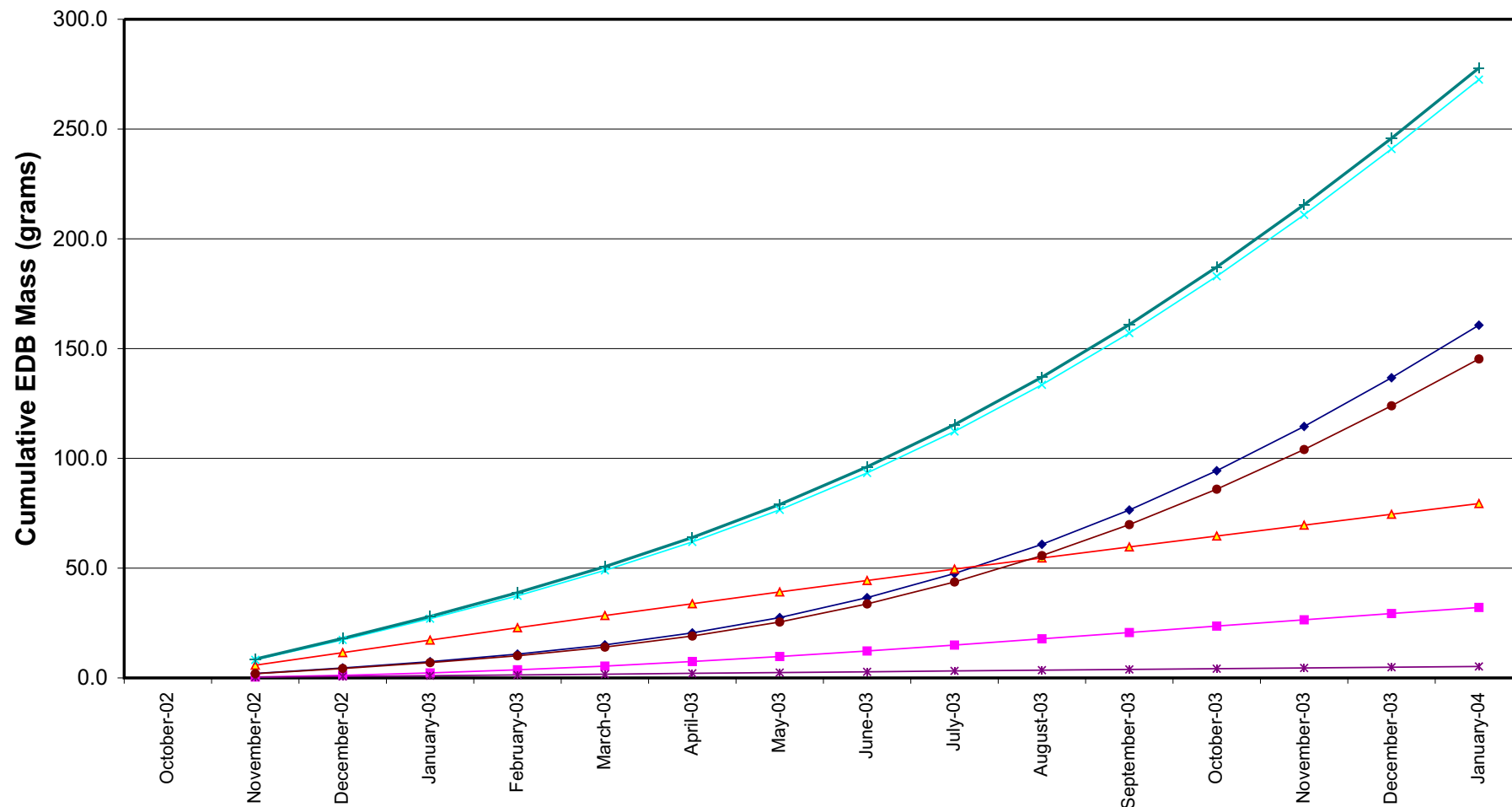
- Sand
- Silty Clay
- Peat/Organic Silt
- Silty
- Clayey Gravel
- Bedrock
- Silty Sand
- EDB concentrations (µg/L)
- Most recent results
- Range of results

Data Source: 15 July 2003, AFCEE, MWR-AFCEE Data Warehouse
Data Range: May 2002 - April 2003

FIGURE 3-10

**FS-1 PLUME
CROSS-SECTION A-A'**
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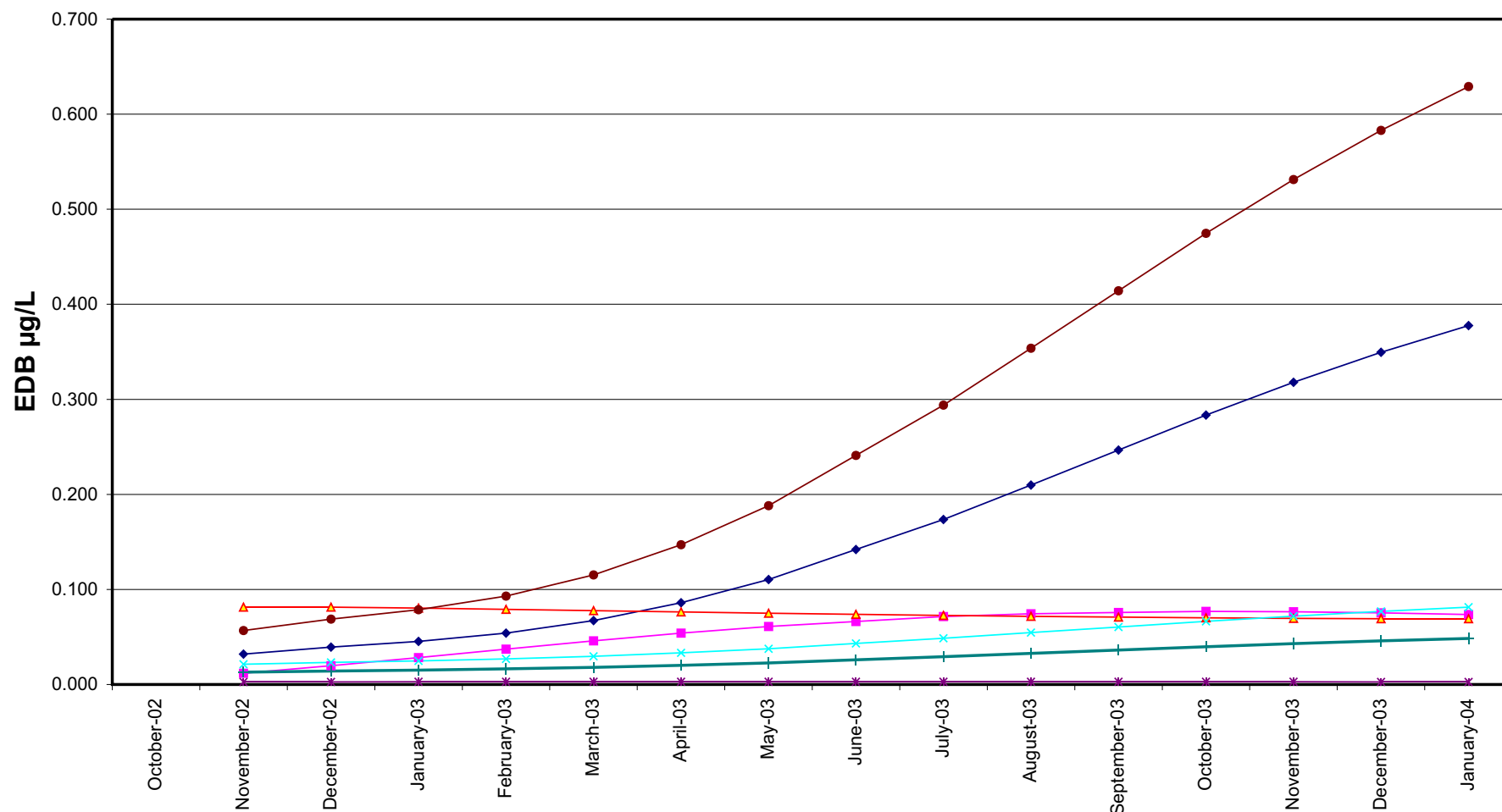


Data Source: Jacobs

FIGURE 3-12

**PREDICTED EDB MASS
DISCHARGED TO THE
QUASHNET RIVER AND BOGS**

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report



Data Source: Jacobs

Legend

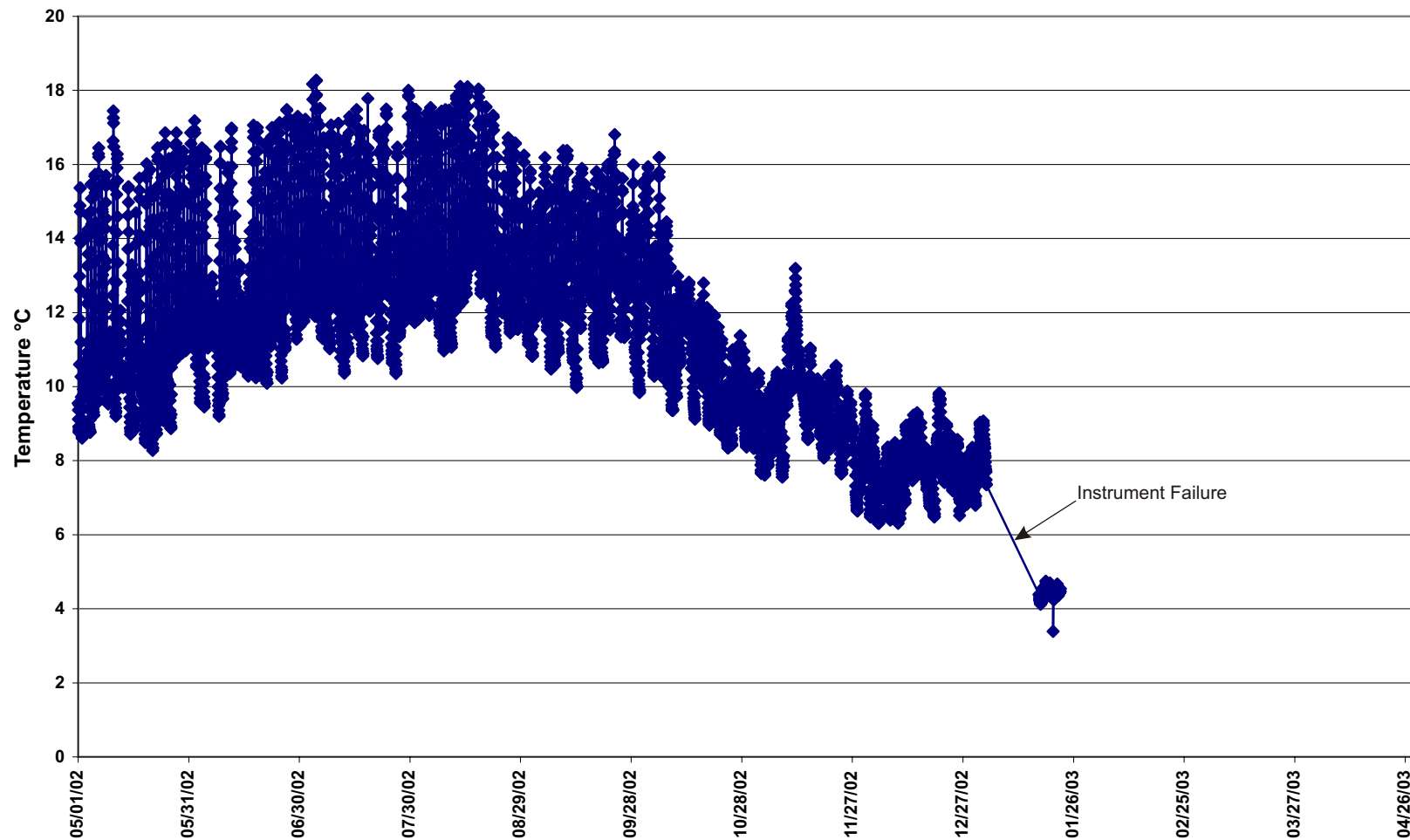


FIGURE 3-13

PREDICTED EDB CONCENTRATIONS FOR THE QUASHNET RIVER AND BOGS

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report

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Legend

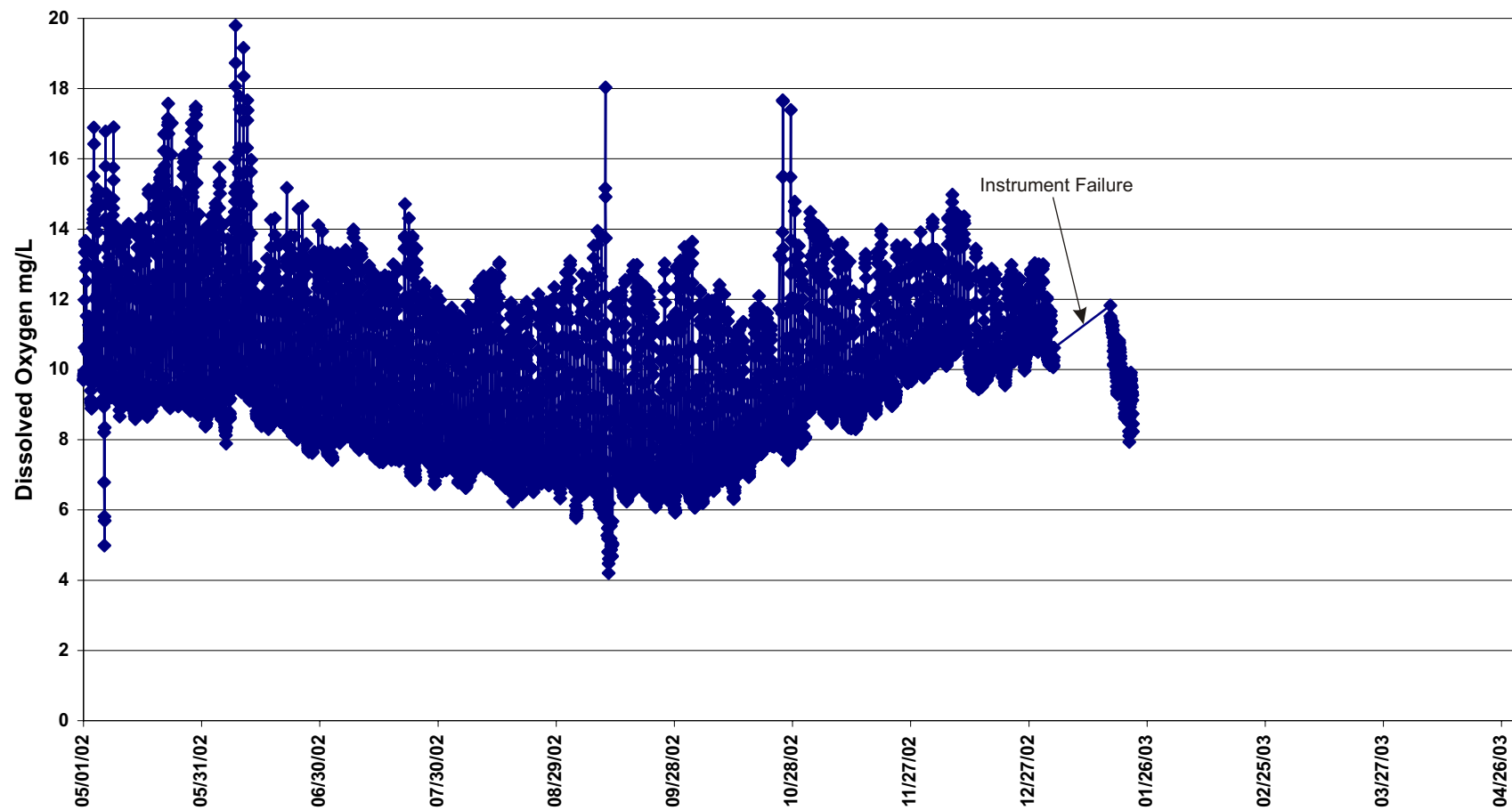
Data Source: Jacobs

FIGURE 3-14

36SW0010 HOURLY TEMPERATURE MEASUREMENTS, MAY 2002 - APRIL 2003

AFCEE - Massachusetts Military Reservation
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Legend

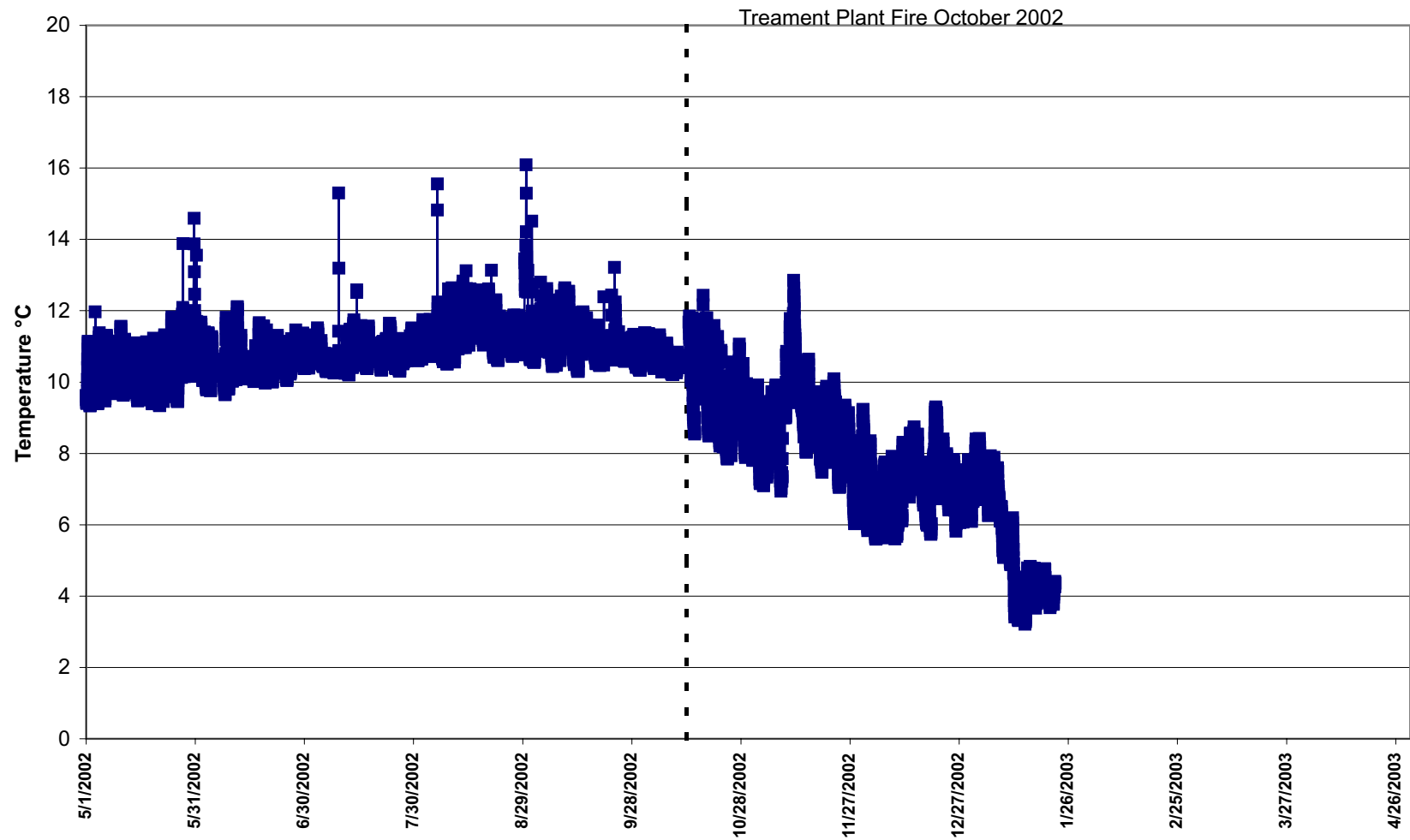
Data Source: Jacobs

FIGURE 3-15

36SW0010 HOURLY DISSOLVED OXYGEN CONCENTRATIONS, MAY 2002 - APRIL 2003

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report

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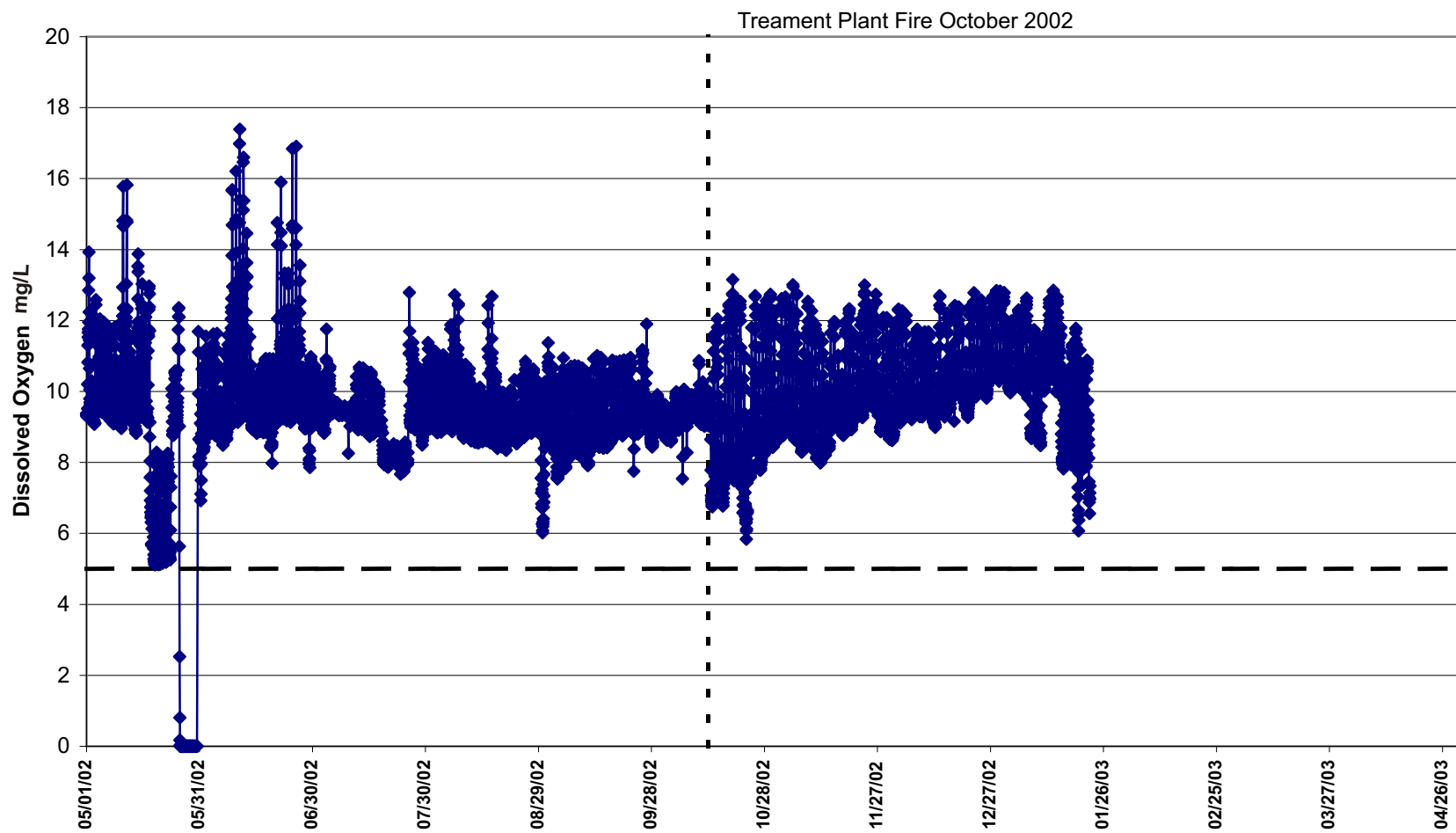
Legend

Data Source: Jacobs

FIGURE 3-16

36SW0300 HOURLY TEMPERATURE MEASUREMENTS, MAY 2002 - APRIL 2003

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report



Legend

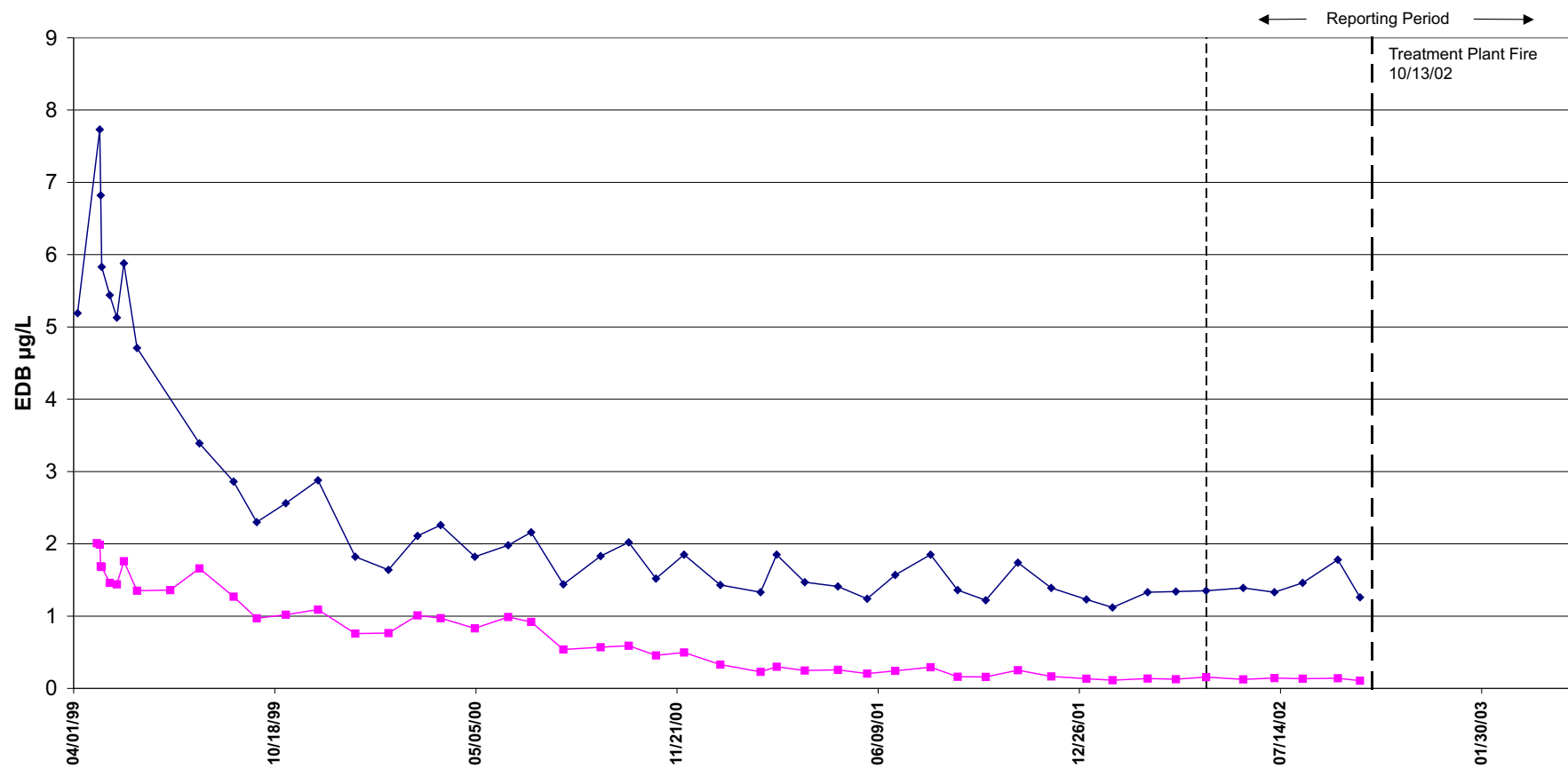
— — — Massachusetts Criteria for dissolved Oxygen 5 mg/L (314 CMR 4.00)

Data Source: Jacobs

FIGURE 3-17

**36SW0300 HOURLY DISSOLVED
OXYGEN CONCENTRATIONS,
MAY 2002 - APRIL 2003**

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report



Data Source: AFCEE, 16 July 2003, MMR-AFCEE Data Warehouse

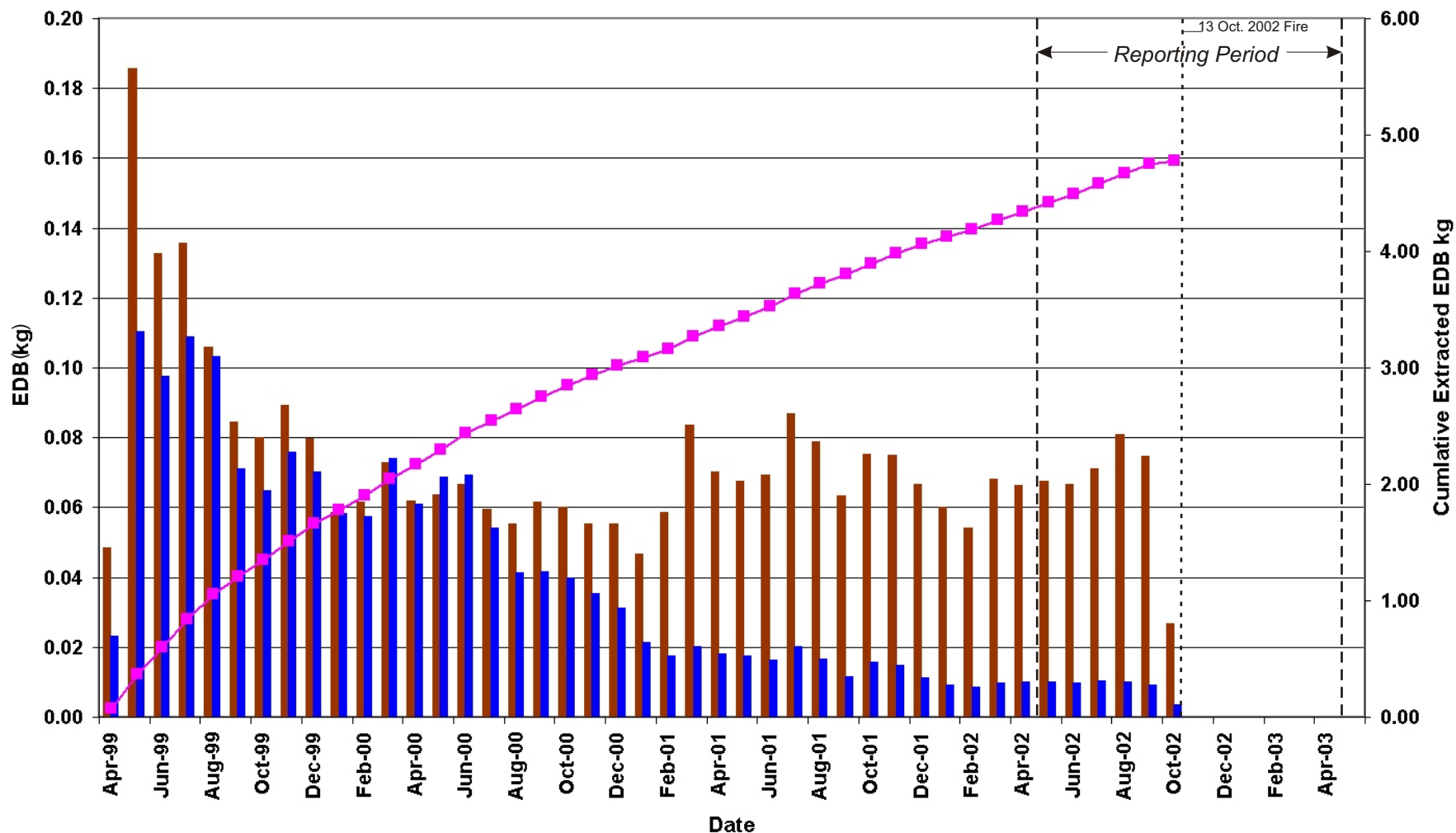
Legend

- ◆ 36EW0005
- 36PLT01005

FIGURE 3-18

**FS-1 DEEP EXTRACTION WELL INFLUENT (36EW0005)
AND SHALLOW WELLPOINTS INFLUENT (36PLT01005)
EDB CONCENTRATION SUMMARY**

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report



Legend

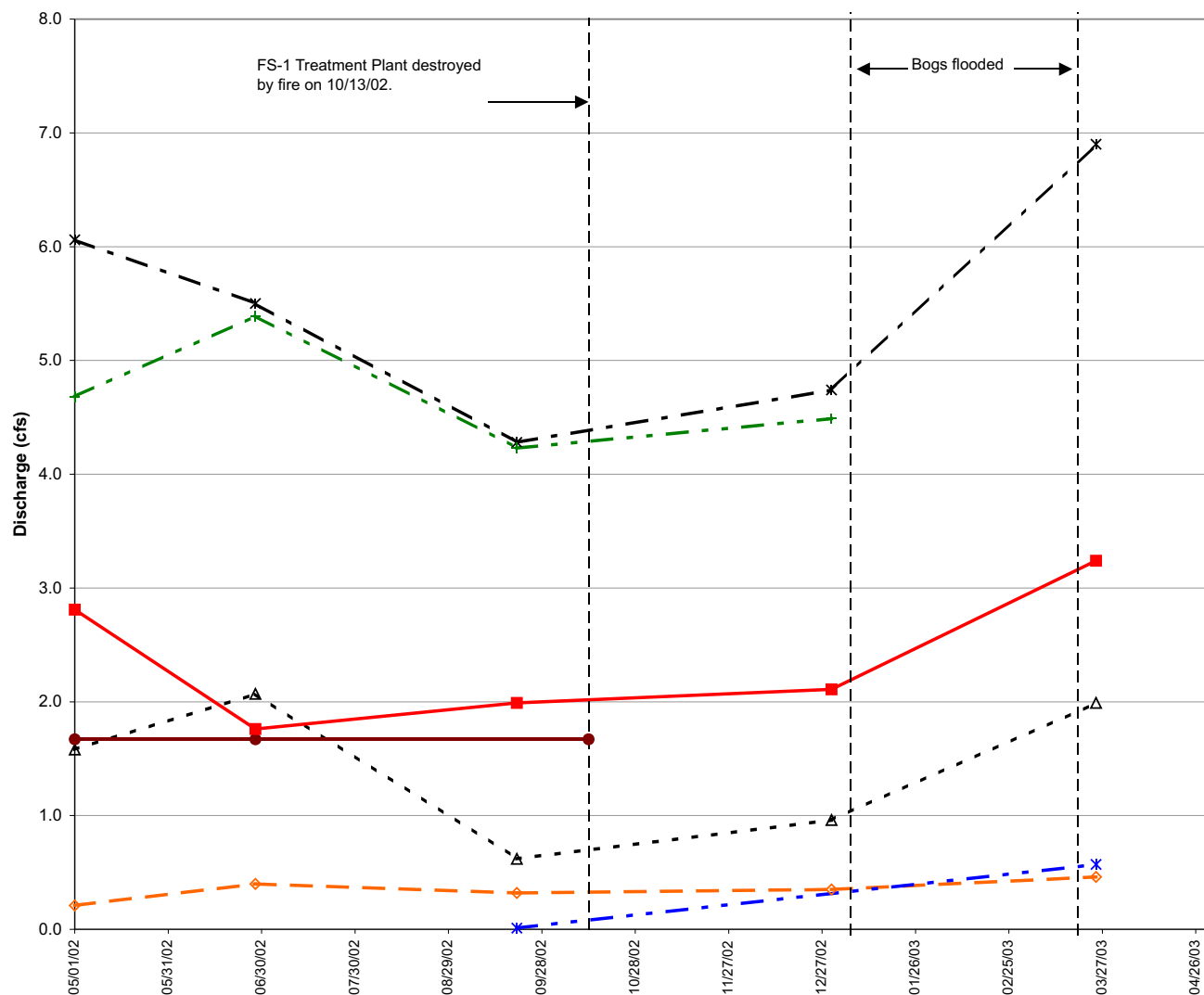
- 36EW0005 (Deep Extraction Well) Mass Removed kg Kilograms
- Shallow Wellpoint Mass Removed EDB Ethylene Dibromide
- Cumulative Mass Removed

Data Source: AFCEE, 16 July 2003, MMR-AFCEE Data Warehouse

FIGURE 3-19

FS-1 REMEDIAL SYSTEM MASS REMOVAL SUMMARY

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Final FS-1 2003 Annual SPEIM Report



Data Source: Jacobs

Legend

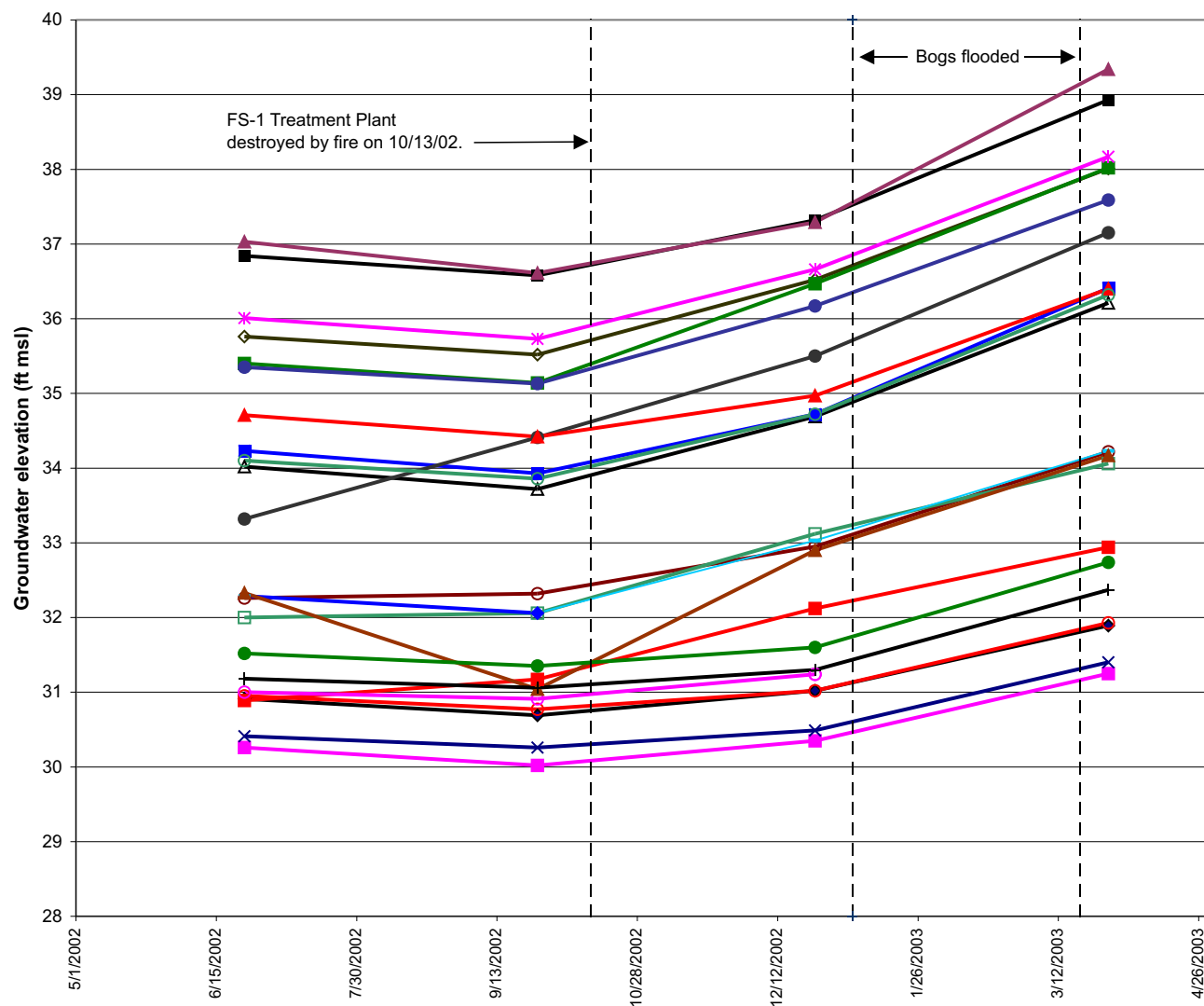
- *— 36SG0001B/C
- ◇— 36SG0301C/D
- *— 36SG0201A/B
- Groundwater discharge to Quashnet Bogs
- +— 36SG0200 A/B
- Treatment System Discharge
- △— 36SG0015A/B

FIGURE 3-2

FS-1 SURFACE WATER FLOW RATES AND DISCHARGE DATA

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Legend

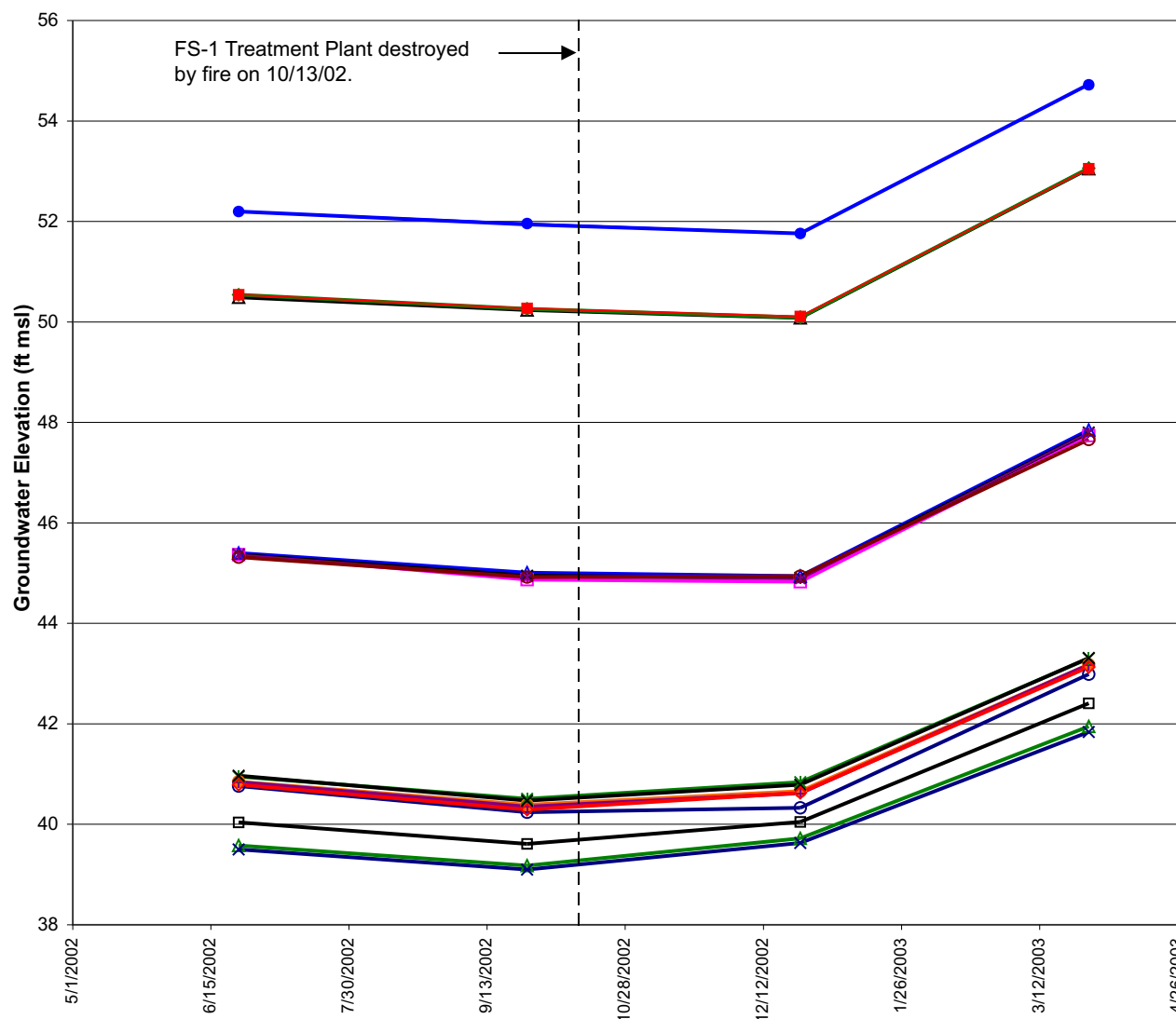
00MW0552A	36MW0132B	36MW0139	36MW1011A	36MW1013D
00MW0552B	36MW0132C	36MW0140	36MW1011B	36MW1013E
00MW0552C	36MW0133	36MW1010A	36MW1013A	36PZ1010
00MW0552D	36MW0136	36MW1010B	36MW1013B	
36MW0132A	36MW0138	36MW1010C	36MW1013C	

Date Source: AFCEE, 16 July 2003, MMR-AFCEE Data Warehouse

FIGURE 3-3

FS-1 GROUNDWATER LEVELS AT WELLS NEAR BOGS

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Final FS-1 2003 Annual SPEIM Report



Legend

36MW0141	36MW0504	36MW1036C	36MW1040B
36MW0501	36MW0603A	36MW1038A	36MW1041A
36MW0503A	36MW0603B	36MW1038B	36MW1041B
36MW0503B	36MW1036A	36MW1038C	36MW1041C
36MW0503C	36MW1036B	36MW1040A	

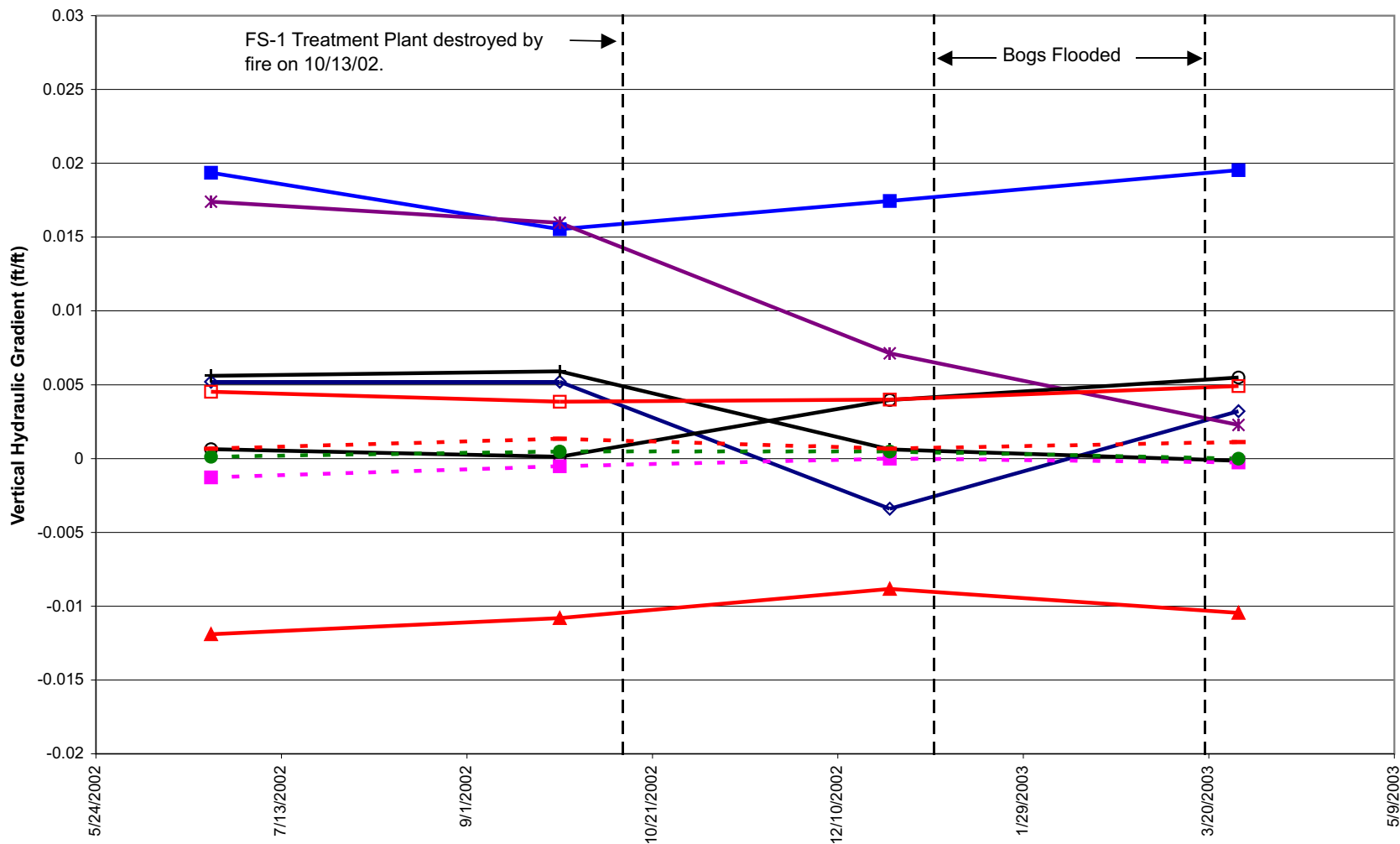
Date Source: AFCEE, 16 July 2003, MMR-AFCEE Data Warehouse

--- Treatment

FIGURE 3-4

FS-1 GROUNDWATER LEVELS AT WELLS IN THE CENTRAL AND NORTHERN SECTIONS OF THE PLUME

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report



Legend

36MW0132A-B	36MW1013D-E	36MW1010B-C
36MW1010C-PZ	36MW1036A-B	36MW0503A-B
36MW0132B-C	36MW1010A-B	
36MW1011A-B	36MW1040A-B	

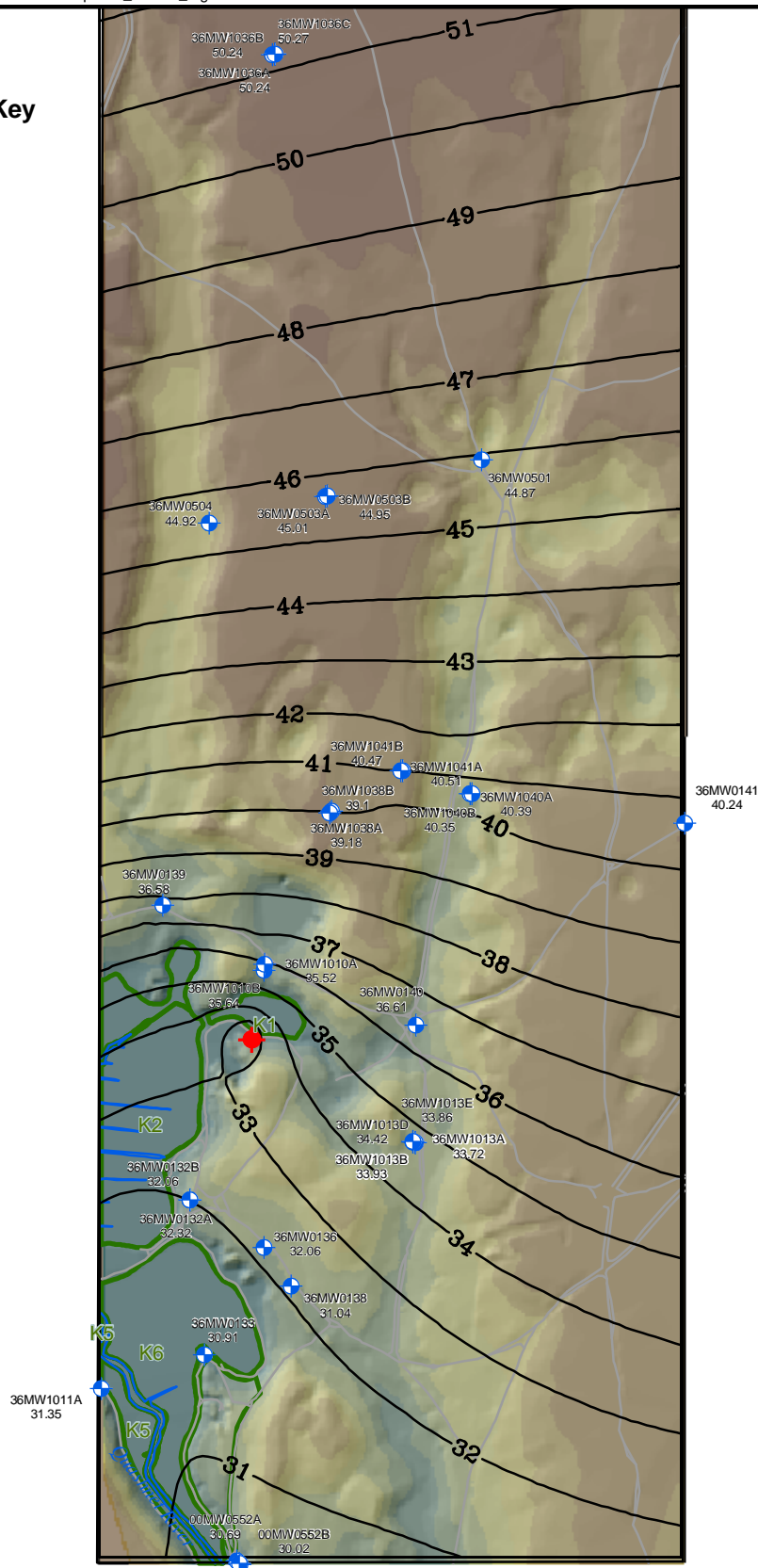
FIGURE 3-5

FS-1 GROUNDWATER VERTICAL HYDRAULIC GRADIENTS

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Final FS-1 2003 Annual SPEIM Report

Terrain Elevation Key Feet MSL

	30 - 38.2
	38.3 - 46.4
	46.5 - 54.6
	54.7 - 62.8
	62.9 - 71
	71.1 - 79.2
	79.3 - 87.4
	87.5 - 95.6
	95.7 - 103.8
	103.9 - 112



Data Source: AFCEE, 15 July 2003, MMR-AFCEE Data Warehouse

Legend

- Monitoring Well with Observed Groundwater Elevation in Feet Mean Sea Level (MSL)
- Extraction Well
- Simulated Groundwater Contour Lines (Contour Values in Feet MSL)

FIGURE 3-6

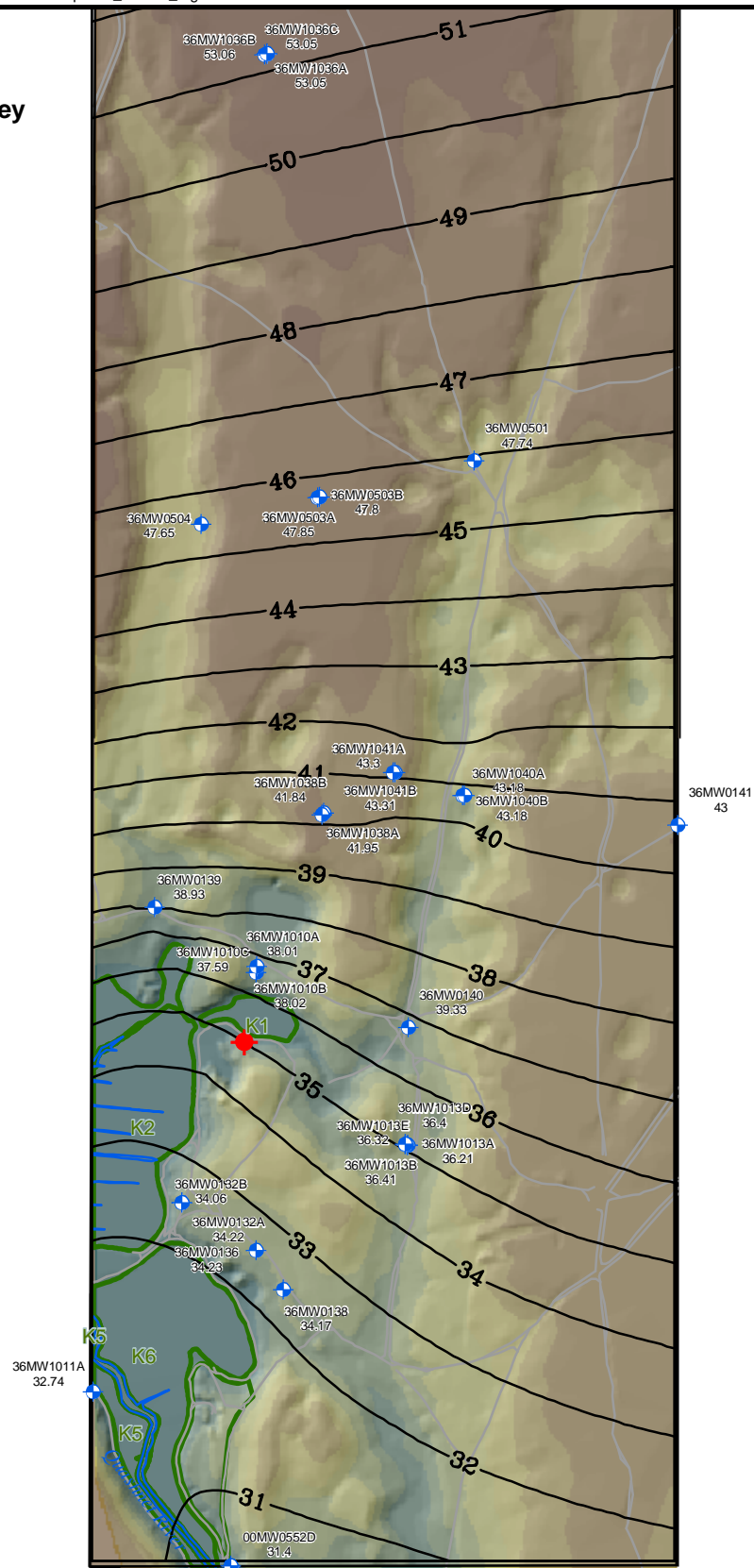
FS-1 SEPTEMBER 2002 SIMULATED DEEP AQUIFER GROUNDWATER ELEVATION CONTOURS, PUMPING (STRESSED) CONDITIONS

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report

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Terrain Elevation Key Feet MSL

	30 - 38.2
	38.3 - 46.4
	46.5 - 54.6
	54.7 - 62.8
	62.9 - 71
	71.1 - 79.2
	79.3 - 87.4
	87.5 - 95.6
	95.7 - 103.8
	103.9 - 112



Data Source: AFCEE, 15 July 2003, MMR-AFCEE Data Warehouse

Legend

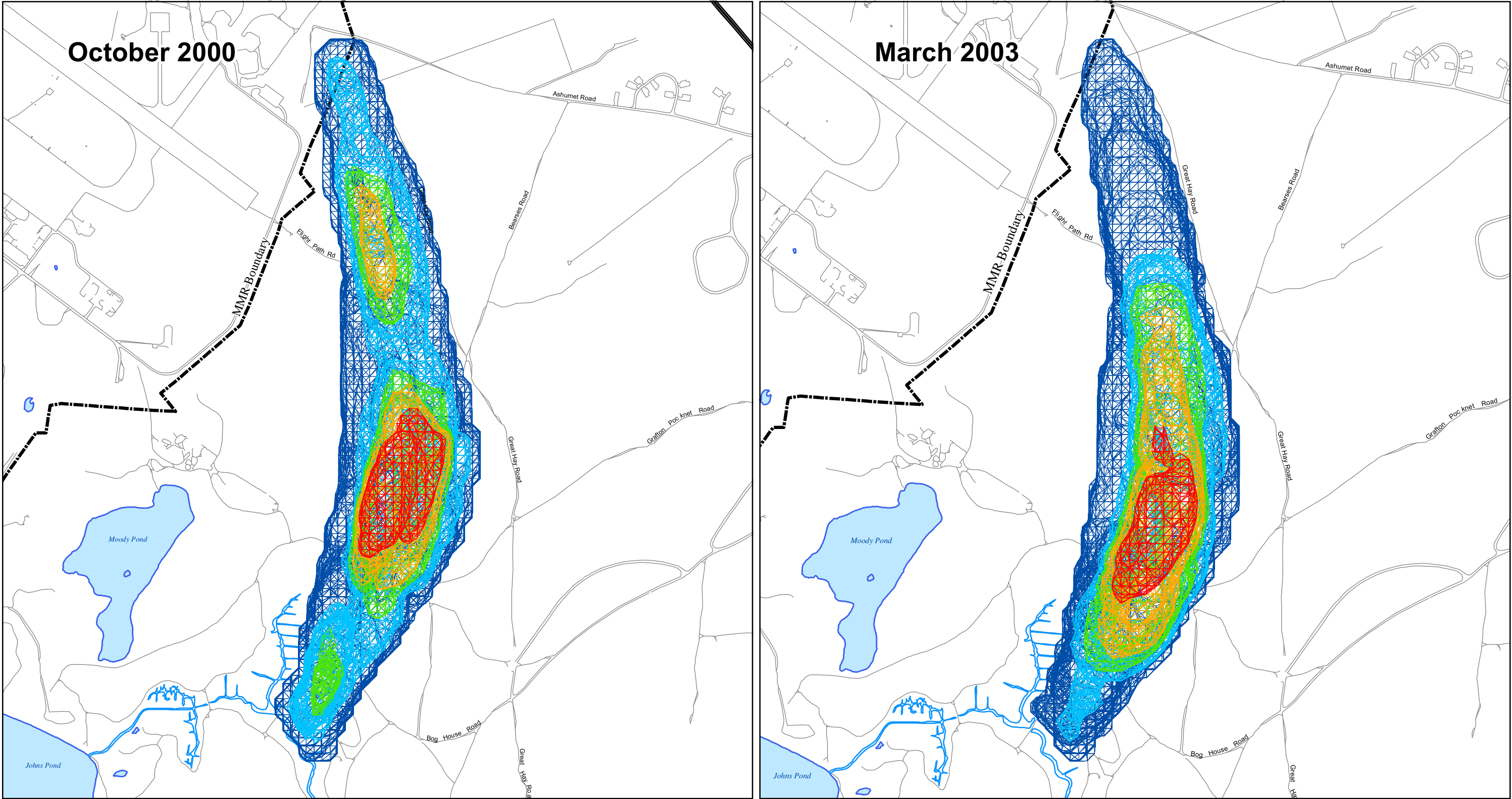
- Monitoring Well with Observed Groundwater Elevation in Feet Mean Sea Level (MSL)
- Extraction Well
- Simulated Groundwater Contour Lines (Contour Values in Feet MSL)
- Bog
- River
- Road

FIGURE 3-7

FS-1 MARCH 2003 SIMULATED DEEP AQUIFER GROUNDWATER ELEVATION CONTOURS, NON-PUMPING (UNSTRESSED) CONDITIONS

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report

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Legend

--- MMR Boundary

EDB Ethylene Dibromide

MMCL Massachusetts Maximum Contaminant Level

EDB MMCL = 0.02 µg/L

EDB Concentration

Blue	0.02 µg/L ≤ EDB < 1.0 µg/L
Light Blue	1.0 µg/L ≤ EDB < 3.0 µg/L
Green	3.0 µg/L ≤ EDB < 5.0 µg/L
Yellow	5.0 µg/L ≤ EDB < 10 µg/L
Red	10 µg/L ≤ EDB

Data Source: AFCEE, MMR-AFCEE Data Warehouse

0 3,100 6,200 Feet

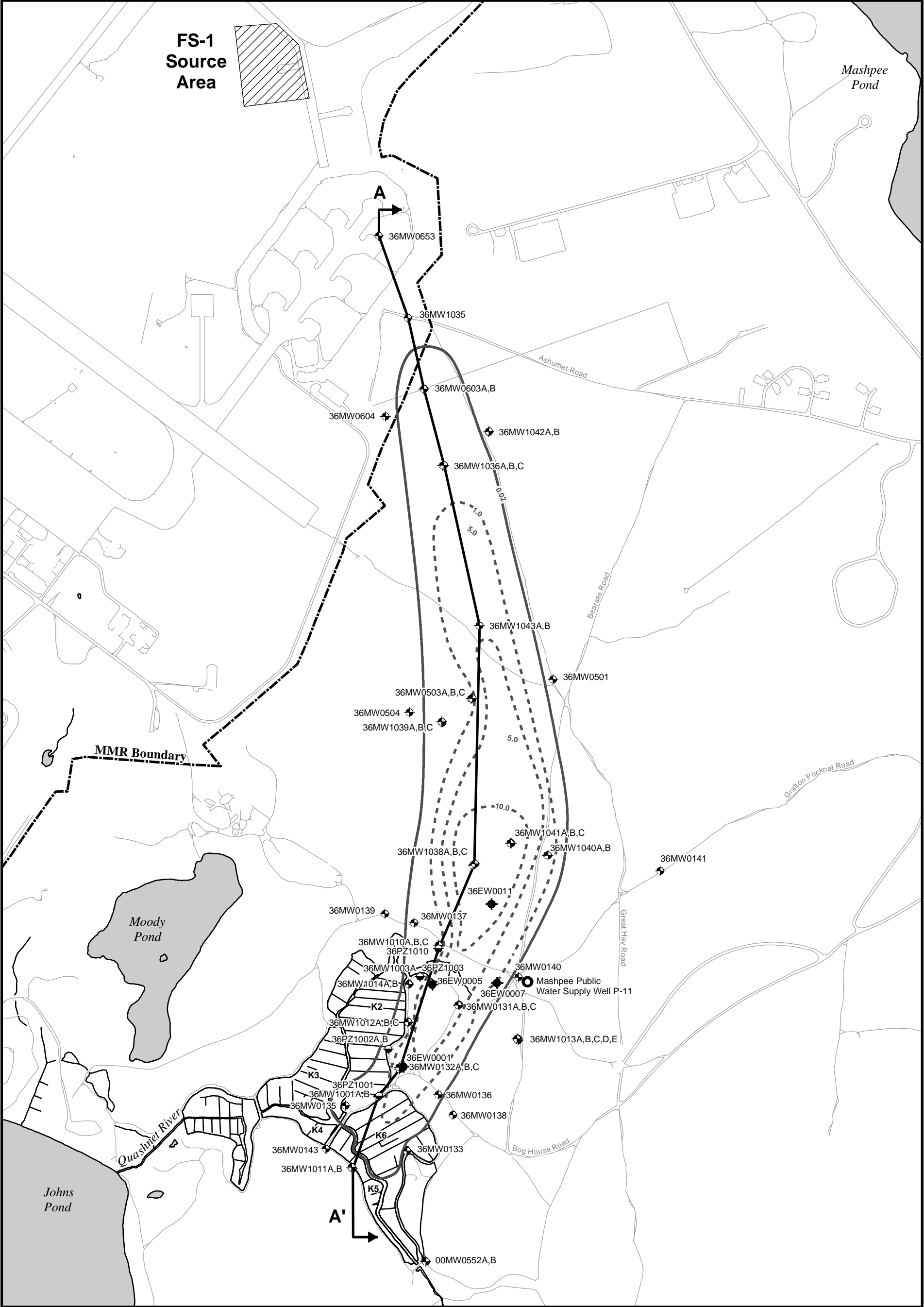
N

FIGURE 3-8

FS-1 PLUME SHELL (PLAN VIEW)

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Final FS-1 2003 Annual SPEIM Report

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Legend

- | | | | |
|---|------------------------------------|-------|---|
| ◆ | Extraction Well | □ | Bogs and Wetlands |
| ◆ | Monitoring Well | --- | MMR Boundary |
| ⊙ | Piezometer | — | FS-1 Plume Boundary (EDB MMCL = 0.02 µg/L) (March 2003) |
| ○ | Proposed Mashpee Water Supply Well | - - - | Plume Contour (EDB > 0.02 µg/L) (March 2003) |
| ▨ | Source Area | A'↑ | Cross-Section Line |

Data Source: AFCEE, MMR-AFCEE Data Warehouse

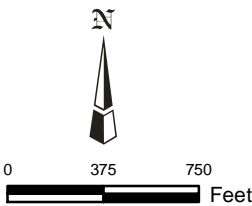


FIGURE 3-9

FS-1 PLUME CONTOUR MAP (PLAN VIEW)

AFCEE - Massachusetts Military Reservation
Final FS-1 2003 Annual SPEIM Report

Table 2-1
FS-1 Surface Water Monitoring
Final FS-1 2003 Annual SPEIM Report

Location Identification	Rationale for Selecting Sampling Location	2002 Monitoring Frequency (Jan - Sept 2002)	2002 Post Fire Monitoring Frequency (Oct - Dec 2002)	2003 Post Fire Monitoring Frequency (January 2003 - until treatment resumes)	Parameters
36SG0001B/C	Characterize flow in the Quashnet River downgradient of the bogs.	Quarterly	Quarterly	Quarterly	Stream Gauging
36SG0015A/B	Characterize flow in the Quashnet River upgradient of the bogs.	Quarterly	Quarterly	Quarterly	Stream Gauging
36SG0200A/B	Characterize flow in the Quashnet River (near 36SW0003).	Quarterly	Quarterly	Quarterly	Stream Gauging
36SG0201A/B	Characterize flow of the lower reach of the K2 bog east ditch.	Quarterly	Quarterly	Quarterly	Stream Gauging
36SG0301C/D	Characterize flow from K1 bog.	Quarterly	Quarterly	Quarterly	Stream Gauging
36SG0303A/B	Characterize flow of the middle reach of the K2 bog east ditch.	Quarterly	Quarterly	Quarterly	Stream Gauging
36SW0001	Characterize surface water downstream of the cranberry bogs.	Quarterly	Biweekly	Monthly	EDB, Field
36SW0003	Characterize surface water downgradient of treatment system surface discharge, Quashnet River.	Quarterly	Biweekly	Monthly	EDB, Field
36SW0007	Characterize surface water inflowing to the K1 bog.	Quarterly	Biweekly	Monthly	EDB, Field
36SW0010	Characterize surface water of the K1 bog discharging to the northern tributary of the Quashnet River (K2 bog west ditch).	Hourly	Hourly	Hourly	Temp, DO
		Quarterly	Biweekly	Monthly	EDB, Field
36SW0015	Characterize surface water of the Quashnet River entering the bogs.	Quarterly	Biweekly	Monthly	EDB, Field
36SW0019	Characterize surface water of the K6 bog.	Monthly	Biweekly	Monthly	EDB, Field
36SW0036	Characterize surface water of the K6 bog.	Quarterly	Biweekly	Monthly	EDB, Field
36SW0200	Characterize surface water of the K2 east ditch.	Quarterly	Biweekly	Monthly	EDB, Field
36SW0201	Characterize surface water of the K2 bog east ditch.	Quarterly	Biweekly	Monthly	EDB, Field
36SW0221	Characterize surface water of the K1 bog north ditch.	Quarterly	NA	NA	Field
		NA	Biweekly	Monthly	EDB, Field
36SW0300	Characterize surface water of the K2 bog west ditch.	Hourly	Hourly	Hourly	Temp, DO
		Quarterly	Biweekly	Monthly	EDB, Field
36SW0301	Characterize surface water downgradient of treatment system surface discharge, swale along eastern side of K2 bog.	Quarterly	Biweekly	Monthly	EDB, Field
36SW0302	Characterize surface water at the area of treatment system surface discharge of the K2 bog west ditch.	Quarterly	NA	NA	Field
		NA	Biweekly	Monthly	EDB, Field
36SW0303	Characterize surface water of the K2 bog east ditch.	Quarterly	Biweekly	Monthly	EDB, Field
36SW4188	Characterize surface water of the K6 bog.	Monthly	Biweekly	Monthly	EDB, Field

Key:

DO = dissolved oxygen

EDB = ethylene dibromide

Field = temperature, DO, pH, specific conductance, oxidation-reduction potential, and turbidity

NA = not applicable

Temp = temperature

Table 2-2
FS-1 Groundwater Sampling and Elevation Monitoring
Final FS-1 2003 Annual SPEIM Report

Location Identification	Rationale for Selecting Sampling Location	2002 Monitoring Frequency (Jan - Sept 2002)	2002 Post Fire Monitoring Frequency (Oct - Dec 2002)	2003 Interim Monitoring Frequency (January 2003 - until treatment resumes)	Parameters
00MW0552A	South of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field/WL
00MW0552B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
00MW0552C		Quarterly	Quarterly	Quarterly	WL
00MW0552D		Quarterly	Quarterly	Quarterly	WL
36MW0002 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	Quarterly	VOCs/metals/Field
36MW0007 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	Quarterly	VOCs/metals/Field
36MW0010A ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	Quarterly	VOCs/metals/Field
36MW0015 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	Quarterly	VOCs/metals/Field
36MW0131A	FS-1 interior well	Quarterly	Biweekly	Bimonthly	EDB/Field
36MW0131B		Quarterly	Biweekly	Bimonthly	EDB/Field
36MW0131C		Quarterly	Biweekly	Bimonthly	EDB/Field
36MW0132A	FS-1 leading edge	Quarterly	Biweekly	Bimonthly	EDB/Field
36MW0132B		Quarterly	Quarterly	Quarterly	WL
		Quarterly	Biweekly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	WL
36MW0132C		Quarterly	Biweekly	Bimonthly	EDB/Field
36MW0133		Quarterly	Quarterly	Quarterly	WL
	Quarterly	Biweekly	Bimonthly	EDB/Field	
36MW0135	South of the FS-1 leading edge	Quarterly	Quarterly	Quarterly	WL
36MW0136	Southeast of the FS-1 leading edge	Quarterly	Biweekly	Bimonthly	EDB/Field
36MW0137	West boundary of FS-1 plume	Quarterly	Biweekly	Bimonthly	EDB/Field
36MW0138	Southeast of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	Quarterly	WL
36MW0139	West of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0140	East of the FS-1 plume, outside plume boundary	Quarterly	Biweekly	Bimonthly	EDB/Field
36MW0141	East of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	WL
36MW0143	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0501	East of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field
36MW0503A	Mid-interior of FS-1 plume	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0503B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0503C		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0504	West of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field/WL

Table 2-2
FS-1 Groundwater Sampling and Elevation Monitoring
Final FS-1 2003 Annual SPEIM Report

Location Identification	Rationale for Selecting Sampling Location	2002 Monitoring Frequency (Jan - Sept 2002)	2002 Post Fire Monitoring Frequency (Oct - Dec 2002)	2003 Interim Monitoring Frequency (January 2003 - until treatment resumes)	Parameters
36MW0603A	Northern interior of FS-1 plume	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0603B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW0604	West of FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1001A	Interior of FS-1 plume, leading edge	Quarterly	Biweekly	Bimonthly	EDB/Field
36MW1001B		Quarterly	Biweekly	Bimonthly	EDB/Field
36MW1003A	Interior of FS-1 plume, leading edge	NA	Biweekly	Bimonthly	EDB/Field
36MW1010A	Interior of FS-1 plume	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1010B		Quarterly	Biweekly	Bimonthly	EDB/Field
		Quarterly	Quarterly	Quarterly	WL
36MW1010C		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1011A	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1011B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1012A	Leading edge of FS-1 plume, west side	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1012B		Quarterly	Biweekly	Bimonthly	EDB/Field
36MW1012C		Quarterly	Quarterly	Quarterly	EDB/Field
36MW1013A	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013C		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013D		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1013E	FS-1 plume, west edge	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1014A		Quarterly	Biweekly	Bimonthly	EDB/Field
36MW1014B		Quarterly	Biweekly	Bimonthly	EDB/Field
36MW1035	North of FS-1 Plume, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1036A	Northern interior of FS-1 plume	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1036B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1036C	Interior of FS-1 plume	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1038A		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1038B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1038C		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1039A	FS-1 plume, west edge	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1039B		Quarterly	Quarterly	Quarterly	EDB/Field
36MW1039C		Quarterly	Quarterly	Quarterly	EDB/Field
36MW1040A	FS-1 plume, east edge	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1040B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1041A	FS-1 plume, Interior	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1041B		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1041C		Quarterly	Quarterly	Quarterly	EDB/Field/WL
36MW1042A	North of FS-1 Plume, outside plume boundary	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1042B		Quarterly	Quarterly	Quarterly	EDB/Field

Table 2-2
FS-1 Groundwater Sampling and Elevation Monitoring
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Location Identification	Rationale for Selecting Sampling Location	2002 Monitoring Frequency (Jan - Sept 2002)	2002 Post Fire Monitoring Frequency (Oct - Dec 2002)	2003 Interim Monitoring Frequency (January 2003 - until treatment resumes)	Parameters
36MW1043A	Monitor the northern interior portion of the FS-1 plume (installed June 2002)	Quarterly	Quarterly	Quarterly	EDB/Field
36MW1043B		Quarterly	Quarterly	Quarterly	EDB/Field
36PZ1001	Interior of FS-1 plume, leading edge	Quarterly	Biweekly	Bimonthly	EDB/Field
36PZ1002A	West of FS-1 plume, leading edge	Quarterly	Biweekly	Bimonthly	EDB/Field
36PZ1002B		Quarterly	Biweekly	Bimonthly	EDB/Field
36PZ1003	West boundary of FS-1 plume	Quarterly	Biweekly	Bimonthly	EDB/Field
36PZ1010	Interior of FS-1 plume	Quarterly	Quarterly	Quarterly	EDB/Field/WL
36PZ4235	Monitor shallow groundwater in the vicinity of the vernal pool southeast of EW7 (installed April 2002)	Monthly	Monthly	Monthly	WL
36PZ4236	Monitor shallow groundwater in the vicinity of the wetland north of Grafton Pocknet Road (installed April 2002)	Monthly	Monthly	Monthly	WL
36PZ4237	Monitor shallow groundwater in the vicinity of the wetland east of the K-1 bog (installed June 2002)	Monthly	Monthly	Monthly	WL
18 SWP's	Monitor shallow groundwater	Semiannual	NA	NA	EDB/Field
5 SWP's	Monitor shallow groundwater	Quarterly	NA	NA	EDB/Field
36EW4010	Monitor shallow groundwater adjacent to the K2 bog east ditch	Semiannual	Biweekly	Bimonthly	EDB/Field
36EW4020	Monitor shallow groundwater adjacent to the K2 bog east ditch	Semiannual	Biweekly	Bimonthly	EDB/Field
36EW4035	Monitor shallow groundwater adjacent to the K2 bog east ditch	Semiannual	Biweekly	Bimonthly	EDB/Field
36EW4046	Monitor shallow groundwater adjacent to the K2 bog east ditch	Semiannual	Biweekly	Bimonthly	EDB/Field
36EW4054	Monitor shallow groundwater adjacent to the K2 bog east ditch	Semiannual	Biweekly	Bimonthly	EDB/Field
36EW4065	Monitor shallow groundwater adjacent to the K2 bog east ditch	NA	Biweekly	Bimonthly	EDB/Field
36EW4074	Monitor shallow groundwater adjacent to the K2 bog east ditch	NA	Biweekly	Bimonthly	EDB/Field
36EW4083	Monitor shallow groundwater adjacent to the K2 bog east ditch	NA	Biweekly	Bimonthly	EDB/Field
36EW4090	Monitor shallow groundwater between the K2 and K6 bogs	Quarterly	Biweekly	Bimonthly	EDB/Field
36EW4100	Monitor shallow groundwater between the K2 and K6 bogs	Quarterly	Biweekly	Bimonthly	EDB/Field
36EW4132	Monitor shallow groundwater immediately north of the K6 bog	Quarterly	Biweekly	Bimonthly	EDB/Field
36EW4135	Monitor shallow groundwater immediately north of the K6 bog	NA	Biweekly	Bimonthly	EDB/Field
36EW4137	Monitor shallow groundwater along the west side of the K6 bog	NA	Biweekly	Bimonthly	EDB/Field
36EW4149	Monitor shallow groundwater along the west side of the K6 bog	NA	Biweekly	Bimonthly	EDB/Field
18 SWP's	Monitor shallow groundwater	Semiannual	NA	NA	EDB/Field
5 SWP's	Monitor shallow groundwater	Quarterly	NA	NA	EDB/Field

Key:

¹ = Source area monitoring includes volatile organic compounds, total metals, temperature, dissolved oxygen, specific conductance, pH, oxidation-reduction potential, and turbidity

EDB = ethylene dibromide

Field = temperature, DO, pH, specific conductance, oxidation-reduction potential, and turbidity

NA = not applicable

VOCs = volatile organic compounds

WL = water level

Table 2-3
FS-1 Treatment System Monitoring
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Location Identification	Rationale for Sampling Location	Frequency	Parameters
36EW0005	Deep extraction well influent	Monthly	EDB/Field
36PLT01005	Shallow wellpoints Influent	Monthly	EDB/Field
36PLT01001	Combined influent	Quarterly	Alk, TOC, DOC, TSS, TDS, BOD, COD
36PLT01002/36PLT01004	Post-GAC	Monthly	EDB/Field
36PLT01003	Plant effluent	Monthly	EDB/Field
		Quarterly	Alk, TOC, DOC, TSS, TDS, BOD, COD

Note: Monthly EDB monitoring at locations 36EW0005, 36PLT01005, 36PLT01002/36PLT01004, and 36PLT01003 also meet the monitoring requirements specified in the FS-1 National Pollutant Discharge Elimination System exclusion permit, 99-094

Key:

ALK = alkalinity

BOD = biological oxygen demand

COD = chemical oxygen demand

DOC = dissolved organic carbon

EDB = ethylene dibromide

GAC = granular activated carbon

TDS = total dissolved solids

TOC = total organic carbon

TSS = total suspended solids

Table 3-1
Quashnet River and Bogs Stream Gauging Measurements, May 2002 - April 2003
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Location	Northing (ft)	Easting (ft)	Parameter	5/2/2002*	28-Jun-02	20-Sep-02	30-Dec-02	1-Mar-03
36SG0001B/C	232269.32	871951.42	Staff Gauge Elevation (ft msl)	28.83	28.96	28.96	28.75	29.01
			Velocity (ft/sec)	1.03	0.73	0.55	0.83	1.03
			Flow (cfs)	6.06	5.50	4.28	4.74	6.90
36SG0015A/B	233578.77	870652.89	Staff Gauge Elevation (ft msl)	31.04	31.09	31.00	30.96	31.87
			Velocity (ft/sec)	0.25	0.43	0.15	0.21	0.22
			Flow (cfs)	1.58	2.07	0.62	0.96	1.99
36SG0200A/B	233463.74	871302.13	Staff Gauge Elevation (ft msl)	30.93	30.46	30.13	30.03	31.89
			Velocity (ft/sec)	0.25	0.34	0.30	0.32	NM ¹
			Flow (cfs)	4.68	5.39	4.23	4.49	NM ¹
36SG0201A/B	233592.77	871284.96	Staff Gauge Elevation (ft msl)	30.86	30.66	30.69	31.02	31.91
			Velocity (ft/sec)	NM	NM	0.003	NM	0.07
			Flow (cfs)	NM	NM	0.01	NM	0.57
36SG0301C/D	234679.05	871806.31	Staff Gauge Elevation (ft msl)	31.55	31.86	32.23	31.62	31.87
			Velocity (ft/sec)	0.09	0.1	0.05	0.12	0.1
			Flow (cfs)	0.21	0.4	0.32	0.35	0.46
36SG0303A/B	234106.4	871652.2	Staff Gauge Elevation (ft msl)	30.95	30.84	30.99	30.18	31.92
			Velocity (ft/sec)	NM	NM	0.003	NM	NM
			Flow (cfs)	NM	NM	0.01	NM	NM

Data Source: Logbook ENR-J23-35Z15630-F1-0042 and 15 July 2003 MMR-AFCEE Data Warehouse

Key:

cfs = cubic feet per second

ft = feet

ft/sec = feet per second

ft msl = feet mean sea level

NM = no measurement due to low flow caused by excessive vegetation

NM¹ = no measurement due to high water levels

* = this data was collected and reported in the FS-1 2002 annual report, but used for this hydraulic assessment as well.

Table 3-2
FS-1 Groundwater Elevations,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Sample Time	Date	Northing (ft)	Easting (ft)	Measurement Point Elevation (ft msl)	Distance to Water (ft mp)	Static Water Elevation (ft msl)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)
00MW0552A	10:30	6/24/2002	232375	871964	40.03	9.1	30.93	-77.8	-82.8
00MW0552A	13:52	6/24/2002	232375	871964	40.03	9.12	30.91	-77.8	-82.8
00MW0552A	8:45	9/26/2002	232375	871964	40.03	9.34	30.69	-77.8	-82.8
00MW0552A	8:40	12/24/2002	232375	871964	40.03	9.01	31.02	-77.8	-82.8
00MW0552A	9:00	3/28/2003	232375	871964	40.03	8.14	31.89	-77.8	-82.8
00MW0552B	10:33	6/24/2002	232369	871968	39.29	9.03	30.26	-47.08	-52.08
00MW0552B	9:00	9/26/2002	232369	871968	39.29	9.27	30.02	-47.08	-52.08
00MW0552B	16:10	9/26/2002	232369	871968	39.29	9.27	30.02	-47.08	-52.08
00MW0552B	8:44	12/24/2002	232369	871968	39.29	8.94	30.35	-47.08	-52.08
00MW0552B	12:35	12/24/2002	232369	871968	39.29	8.94	30.35	-47.08	-52.08
00MW0552B	9:03	3/28/2003	232369	871968	39.29	8.04	31.25	-47.08	-52.08
00MW0552B	10:55	3/28/2003	232369	871968	39.29	8.06	31.23	-47.08	-52.08
00MW0552C	10:36	6/24/2002	232385	871955	39.77	8.82	30.95	-20.78	-25.78
00MW0552C	9:03	9/26/2002	232385	871955	39.77	9	30.77	-20.78	-25.78
00MW0552C	8:49	12/24/2002	232385	871955	39.77	8.75	31.02	-20.78	-25.78
00MW0552C	9:06	3/28/2003	232385	871955	39.77	7.84	31.93	-20.78	-25.78
00MW0552D	10:39	6/24/2002	232380	871961	39.7	9.29	30.41	33.4	23.4
00MW0552D	9:06	9/26/2002	232380	871961	39.7	9.44	30.26	33.4	23.4
00MW0552D	8:54	12/24/2002	232380	871961	39.7	9.21	30.49	33.4	23.4
00MW0552D	9:09	3/28/2003	232380	871961	39.7	8.3	31.4	33.4	23.4
36MW0132A	11:00	6/24/2002	233921.7	871753.9	53.96	21.7	32.26	-130.7	-135.7
36MW0132A	15:45	9/26/2002	233921.7	871753.9	53.96	21.64	32.32	-130.7	-135.7
36MW0132A	9:00	12/24/2002	233921.7	871753.9	53.96	21.01	32.95	-130.7	-135.7
36MW0132A	9:30	3/28/2003	233921.7	871753.9	53.96	19.74	34.22	-130.7	-135.7
36MW0132B	11:04	6/24/2002	233921.6	871753.9	53.96	21.96	32	-80.7	-85.7
36MW0132B	15:49	9/26/2002	233921.6	871753.9	53.96	21.9	32.06	-80.7	-85.7
36MW0132B	9:05	12/24/2002	233921.6	871753.9	53.96	20.84	33.12	-80.7	-85.7
36MW0132B	9:33	3/28/2003	233921.6	871753.9	53.96	19.9	34.06	-80.7	-85.7
36MW0132C	11:06	6/24/2002	233936	871753.8	53.98	23.09	30.89	-23.39	-28.39
36MW0132C	15:54	9/26/2002	233936	871753.8	53.98	22.81	31.17	-23.39	-28.39
36MW0132C	9:10	12/24/2002	233936	871753.8	53.98	21.86	32.12	-23.39	-28.39
36MW0132C	9:36	3/28/2003	233936	871753.8	53.98	21.04	32.94	-23.39	-28.39
36MW0133	10:44	6/24/2002	233262.4	871814.6	33.82	2.82	31	-20.96	-25.96
36MW0133	9:20	9/26/2002	233262.4	871814.6	33.82	2.91	30.91	-20.96	-25.96
36MW0133	12:12	12/24/2002	233262.4	871814.6	33.82	2.58	31.24	-20.96	-25.96
36MW0133	9:14	3/28/2003	233262.4	871814.6	33.82	1.67	32.15	-20.96	-25.96
36MW0136	10:52	6/24/2002	233717.3	872068.8	58.52	26.23	32.29	-89.74	-94.26
36MW0136	9:34	9/26/2002	233717.3	872068.8	58.52	26.46	32.06	-89.74	-94.26
36MW0136	11:41	12/24/2002	233717.3	872068.8	58.52	25.49	33.03	-89.74	-94.26
36MW0136	9:23	3/28/2003	233717.3	872068.8	58.52	24.29	34.23	-89.74	-94.26
36MW0138	10:47	6/24/2002	233552.7	872185.4	59.96	27.63	32.33	-89.97	-94.97
36MW0138	9:30	9/26/2002	233552.7	872185.4	59.96	28.92	31.04	-89.97	-94.97
36MW0138	11:50	12/24/2002	233552.7	872185.4	59.96	27.06	32.9	-89.97	-94.97
36MW0138	9:19	3/28/2003	233552.7	872185.4	59.96	25.79	34.17	-89.97	-94.97
36MW0139	13:20	6/24/2002	235174.52	871637.83	49.58	12.74	36.84	-47.63	-52.63
36MW0139	11:50	9/26/2002	235174.52	871637.83	49.58	13	36.58	-47.63	-52.63
36MW0139	12:50	12/24/2002	235174.52	871637.83	49.58	12.26	37.32	-47.63	-52.63
36MW0139	10:10	3/28/2003	235174.52	871637.83	49.58	10.65	38.93	-47.63	-52.63
36MW0140	11:17	6/24/2002	234664.7	872715.1	50.16	13.13	37.03	-84.56	-89.56
36MW0140	12:47	6/24/2002	234664.7	872715.1	50.16	13.13	37.03	-84.56	-89.56
36MW0140	10:00	9/26/2002	234664.7	872715.1	50.16	13.55	36.61	-84.56	-89.56
36MW0140	11:13	12/24/2002	234664.7	872715.1	50.16	12.87	37.29	-84.56	-89.56
36MW0140	8:35	3/28/2003	234664.7	872715.1	50.16	10.82	39.34	-84.56	-89.56
36MW0140	9:46	3/28/2003	234664.7	872715.1	50.16	10.83	39.33	-84.56	-89.56
36MW0141	12:46	6/24/2002	235522.1	873857.7	97.21	56.45	40.76	-119.7	-124.7
36MW0141	10:10	9/26/2002	235522.1	873857.7	97.21	56.97	40.24	-119.7	-124.7
36MW0141	15:11	9/26/2002	235522.1	873857.7	97.21	56.97	40.24	-119.7	-124.7
36MW0141	10:44	12/24/2002	235522.1	873857.7	97.21	56.9	40.31	-119.7	-124.7
36MW0141	11:20	12/24/2002	235522.1	873857.7	97.21	56.88	40.33	-119.7	-124.7
36MW0141	9:46	3/28/2003	235522.1	873857.7	97.21	54.22	42.99	-119.7	-124.7
36MW0141	9:55	3/28/2003	235522.1	873857.7	97.21	54.21	43	-119.7	-124.7

Table 3-2
FS-1 Groundwater Elevations,
May 2002 - April 2003
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Location	Sample Time	Date	Northing (ft)	Easting (ft)	Measurement Point Elevation (ft msl)	Distance to Water (ft mp)	Static Water Elevation (ft msl)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)
36MW0501	12:39	6/24/2002	237066.31	872993.51	78.03	32.66	45.37	-66.62	-71.62
36MW0501	14:25	9/26/2002	237066.31	872993.51	78.03	33.16	44.87	-66.62	-71.62
36MW0501	10:09	12/24/2002	237066.31	872993.51	78.03	33.2	44.83	-66.62	-71.62
36MW0501	11:07	3/28/2003	237066.31	872993.51	78.03	30.29	47.74	-66.62	-71.62
36MW0503A	12:03	6/24/2002	236911.44	872331.03	102.97	57.57	45.4	-86.79	-91.79
36MW0503A	14:33	9/26/2002	236911.44	872331.03	102.97	57.96	45.01	-86.79	-91.79
36MW0503A	10:30	12/24/2002	236911.44	872331.03	102.97	58.03	44.94	-86.79	-91.79
36MW0503A	11:34	3/28/2003	236911.44	872331.03	102.97	55.12	47.85	-86.79	-91.79
36MW0503B	12:10	6/24/2002	236913.42	872337.26	102.64	57.27	45.37	-41.9	-46.9
36MW0503B	14:39	9/26/2002	236913.42	872337.26	102.64	57.69	44.95	-41.9	-46.9
36MW0503B	10:25	12/24/2002	236913.42	872337.26	102.64	57.73	44.91	-41.9	-46.9
36MW0503B	11:37	3/28/2003	236913.42	872337.26	102.64	54.84	47.8	-41.9	-46.9
36MW0503C	12:18	6/24/2002	236913.84	872343	102.64	57.27	45.37	-12.13	-17.13
36MW0503C	14:46	9/26/2002	236913.84	872343	102.64	57.72	44.92	-12.13	-17.13
36MW0503C	10:34	12/24/2002	236913.84	872343	102.64	57.76	44.88	-12.13	-17.13
36MW0503C	11:40	3/28/2003	236913.84	872343	102.64	54.84	47.8	-12.13	-17.13
36MW0504	12:27	6/24/2002	236799.15	871835.56	78.46	33.14	45.32	-98.15	-103.15
36MW0504	10:55	9/26/2002	236799.15	871835.56	78.46	33.54	44.92	-98.15	-103.15
36MW0504	10:59	12/24/2002	236799.15	871835.56	78.46	33.52	44.94	-98.15	-103.15
36MW0504	9:42	3/28/2003	236799.15	871835.56	78.46	30.8	47.66	-98.15	-103.15
36MW0504	11:50	3/28/2003	236799.15	871835.56	78.46	30.81	47.65	-98.15	-103.15
36MW0603A	10:20	6/24/2002	239410.86	871954.33	110.45	58.25	52.2	-84.32	-89.32
36MW0603A	11:33	6/24/2002	239410.86	871954.33	110.45	58.25	52.2	-84.32	-89.32
36MW0603A	8:55	9/26/2002	239410.86	871954.33	110.45	58.51	51.94	-84.32	-89.32
36MW0603A	10:18	12/24/2002	239410.86	871954.33	110.45	58.69	51.76	-84.32	-89.32
36MW0603A	11:15	3/28/2003	239410.86	871954.33	110.45	55.72	54.73	-84.32	-89.32
36MW0603B	10:25	6/24/2002	239406.93	871949.72	110.42	58.22	52.2	-34.37	-39.37
36MW0603B	12:20	6/24/2002	239406.93	871949.72	110.42	58.22	52.2	-34.37	-39.37
36MW0603B	10:15	9/26/2002	239406.93	871949.72	110.42	58.46	51.96	-34.37	-39.37
36MW0603B	10:24	12/24/2002	239406.93	871949.72	110.42	58.66	51.76	-34.37	-39.37
36MW0603B	11:20	3/28/2003	239406.93	871949.72	110.42	55.7	54.72	-34.37	-39.37
36MW1010A	12:57	6/24/2002	234895.77	872068.36	51.62	15.86	35.76	-171.13	-181.13
36MW1010A	14:30	9/26/2002	234895.77	872068.36	51.62	16.1	35.52	-171.13	-181.13
36MW1010A	10:54	12/24/2002	234895.77	872068.36	51.62	15.1	36.52	-171.13	-181.13
36MW1010A	9:55	3/28/2003	234895.77	872068.36	51.62	13.61	38.01	-171.13	-181.13
36MW1010B	13:09	6/24/2002	234921.5	872071.15	49.95	14.55	35.4	-109.37	-114.37
36MW1010B	14:10	6/24/2002	234921.5	872071.15	49.95	14.55	35.4	-109.37	-114.37
36MW1010B	11:43	9/26/2002	234921.5	872071.15	49.95	14.81	35.14	-109.37	-114.37
36MW1010B	13:53	9/26/2002	234921.5	872071.15	49.95	14.31	35.64	-109.37	-114.37
36MW1010B	9:30	12/24/2002	234921.5	872071.15	49.95	13.47	36.48	-109.37	-114.37
36MW1010B	10:58	12/24/2002	234921.5	872071.15	49.95	13.48	36.47	-109.37	-114.37
36MW1010B	9:52	3/28/2003	234921.5	872071.15	49.95	11.93	38.02	-109.37	-114.37
36MW1010C	13:00	6/24/2002	234895.7	872068.3	51.64	16.29	35.35	-31.13	-36.13
36MW1010C	11:39	9/26/2002	234895.7	872068.3	51.64	16.51	35.13	-31.13	-36.13
36MW1010C	10:50	12/24/2002	234895.7	872068.3	51.64	15.47	36.17	-31.13	-36.13
36MW1010C	9:58	3/28/2003	234895.7	872068.3	51.64	14.05	37.59	-31.13	-36.13
36MW1011A	10:22	6/24/2002	233119.52	871376.33	33.88	2.36	31.52	-60.38	-65.38
36MW1011A	15:59	9/26/2002	233119.52	871376.33	33.88	2.53	31.35	-60.38	-65.38
36MW1011A	12:20	12/24/2002	233119.52	871376.33	33.88	2.28	31.6	-60.38	-65.38
36MW1011A	10:42	3/28/2003	233119.52	871376.33	33.88	1.14	32.74	-60.38	-65.38
36MW1011B	10:19	6/24/2002	233130.98	871367.92	34.45	3.27	31.18	14.84	9.84
36MW1011B	16:05	9/26/2002	233130.98	871367.92	34.45	3.39	31.06	14.84	9.84
36MW1011B	12:25	12/24/2002	233130.98	871367.92	34.45	3.15	31.3	14.84	9.84
36MW1011B	10:46	3/28/2003	233130.98	871367.92	34.45	2.08	32.37	14.84	9.84
36MW1013A	13:15	6/24/2002	234163.98	872713.25	59.17	25.15	34.02	-107.89	-112.89
36MW1013A	15:20	9/26/2002	234163.98	872713.25	59.17	25.45	33.72	-107.89	-112.89
36MW1013A	9:29	12/24/2002	234163.98	872713.25	59.17	24.48	34.69	-107.89	-112.89
36MW1013A	10:00	3/28/2003	234163.98	872713.25	59.17	22.96	36.21	-107.89	-112.89
36MW1013B	13:22	6/24/2002	234164.28	872713.42	59.29	25.06	34.23	-67.69	-72.69
36MW1013B	15:25	9/26/2002	234164.28	872713.42	59.29	25.36	33.93	-67.69	-72.69
36MW1013B	9:33	12/24/2002	234164.28	872713.42	59.29	24.57	34.72	-67.69	-72.69
36MW1013B	10:04	3/28/2003	234164.28	872713.42	59.29	22.88	36.41	-67.69	-72.69

Table 3-2
FS-1 Groundwater Elevations,
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Location	Sample Time	Date	Northing (ft)	Easting (ft)	Measurement Point Elevation (ft msl)	Distance to Water (ft mp)	Static Water Elevation (ft msl)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)
36MW1013C	13:30	6/24/2002	234155.06	872713.35	58.25	24.93	33.32	27.38	22.38
36MW1013C	15:26	9/26/2002	234155.06	872713.35	58.25	23.84	34.41	27.38	22.38
36MW1013C	9:38	12/24/2002	234155.06	872713.35	58.25	22.75	35.5	27.38	22.38
36MW1013C	10:09	3/28/2003	234155.06	872713.35	58.25	21.1	37.15	27.38	22.38
36MW1013D	13:35	6/24/2002	234167.48	872701.76	56.89	22.18	34.71	-166.78	-171.78
36MW1013D	15:32	9/26/2002	234167.48	872701.76	56.89	22.47	34.42	-166.78	-171.78
36MW1013D	9:18	12/24/2002	234167.48	872701.76	56.89	21.92	34.97	-166.78	-171.78
36MW1013D	10:13	3/28/2003	234167.48	872701.76	56.89	20.49	36.4	-166.78	-171.78
36MW1013E	13:40	6/24/2002	234167.93	872701.76	56.88	22.78	34.1	-131.72	-136.72
36MW1013E	15:38	9/26/2002	234167.93	872701.76	56.88	23.02	33.86	-131.72	-136.72
36MW1013E	9:24	12/24/2002	234167.93	872701.76	56.88	22.16	34.72	-131.72	-136.72
36MW1013E	10:17	3/28/2003	234167.93	872701.76	56.88	20.56	36.32	-131.72	-136.72
36MW1036A	10:58	6/24/2002	238792.81	872114.21	107.37	56.88	50.49	-150.03	-154.98
36MW1036A	10:40	9/26/2002	238792.81	872114.21	107.37	57.13	50.24	-150.03	-154.98
36MW1036A	10:35	12/24/2002	238792.81	872114.21	107.37	57.29	50.08	-150.03	-154.98
36MW1036A	9:22	3/28/2003	238792.81	872114.21	107.37	54.32	53.05	-150.03	-154.98
36MW1036B	10:45	6/24/2002	238790	872104.5	107.09	56.55	50.54	-111.05	-116.05
36MW1036B	11:40	6/24/2002	238790	872104.5	107.09	56.55	50.54	-111.05	-116.05
36MW1036B	10:45	9/26/2002	238790	872104.5	107.09	56.83	50.26	-111.05	-116.05
36MW1036B	14:15	9/26/2002	238790	872104.5	107.09	56.85	50.24	-111.05	-116.05
36MW1036B	10:15	12/24/2002	238790	872104.5	107.09	57.01	50.08	-111.05	-116.05
36MW1036B	10:40	12/24/2002	238790	872104.5	107.09	57	50.09	-111.05	-116.05
36MW1036B	9:26	3/28/2003	238790	872104.5	107.09	54.03	53.06	-111.05	-116.05
36MW1036C	11:05	6/24/2002	238793.08	872114.6	107.37	56.83	50.54	-62.18	-67.13
36MW1036C	10:42	9/26/2002	238793.08	872114.6	107.37	57.1	50.27	-62.18	-67.13
36MW1036C	10:45	12/24/2002	238793.08	872114.6	107.37	57.26	50.11	-62.18	-67.13
36MW1036C	9:31	3/28/2003	238793.08	872114.6	107.37	54.32	53.05	-62.18	-67.13
36MW1038A	12:00	6/24/2002	235573.02	872357.38	96.56	56.98	39.58	-142.94	-147.84
36MW1038A	11:00	9/26/2002	235573.02	872357.38	96.56	57.38	39.18	-142.94	-147.84
36MW1038A	9:58	12/24/2002	235573.02	872357.38	96.56	56.84	39.72	-142.94	-147.84
36MW1038A	9:04	3/28/2003	235573.02	872357.38	96.56	54.61	41.95	-142.94	-147.84
36MW1038B	12:05	6/24/2002	235566.69	872349.57	96.18	56.68	39.5	-102.15	-106.95
36MW1038B	11:05	9/26/2002	235566.69	872349.57	96.18	57.08	39.1	-102.15	-106.95
36MW1038B	10:03	12/24/2002	235566.69	872349.57	96.18	56.55	39.63	-102.15	-106.95
36MW1038B	9:09	3/28/2003	235566.69	872349.57	96.18	54.34	41.84	-102.15	-106.95
36MW1038C	12:10	6/24/2002	235578.12	872363.05	96.05	56.01	40.04	7.45	2.65
36MW1038C	11:12	9/26/2002	235578.12	872363.05	96.05	56.44	39.61	7.45	2.65
36MW1038C	10:07	12/24/2002	235578.12	872363.05	96.05	56	40.05	7.45	2.65
36MW1038C	9:15	3/28/2003	235578.12	872363.05	96.05	53.64	42.41	7.45	2.65
36MW1040A	11:43	6/24/2002	235647.79	872945.2	64.32	23.47	40.85	-149.18	-153.98
36MW1040A	11:16	9/26/2002	235647.79	872945.2	64.32	23.93	40.39	-149.18	-153.98
36MW1040A	9:58	12/24/2002	235647.79	872945.2	64.32	23.66	40.66	-149.18	-153.98
36MW1040A	8:40	3/28/2003	235647.79	872945.2	64.32	21.14	43.18	-149.18	-153.98
36MW1040B	11:50	6/24/2002	235646.76	872953.29	64.19	23.35	40.84	-63.99	-68.82
36MW1040B	11:22	9/26/2002	235646.76	872953.29	64.19	23.84	40.35	-63.99	-68.82
36MW1040B	10:03	12/24/2002	235646.76	872953.29	64.19	23.57	40.62	-63.99	-68.82
36MW1040B	8:45	3/28/2003	235646.76	872953.29	64.19	21.01	43.18	-63.99	-68.82
36MW1041A	11:20	6/24/2002	235745.02	872658.51	93.12	52.17	40.95	-125.22	-130.02
36MW1041A	14:55	9/26/2002	235745.02	872658.51	93.12	52.61	40.51	-125.22	-130.02
36MW1041A	9:45	12/24/2002	235745.02	872658.51	93.12	52.28	40.84	-125.22	-130.02
36MW1041A	8:50	3/28/2003	235745.02	872658.51	93.12	49.82	43.3	-125.22	-130.02
36MW1041B	11:25	6/24/2002	235744.77	872650.21	93.52	52.55	40.97	-55.75	-60.65
36MW1041B	14:59	9/26/2002	235744.77	872650.21	93.52	53.05	40.47	-55.75	-60.65
36MW1041B	9:49	12/24/2002	235744.77	872650.21	93.52	52.73	40.79	-55.75	-60.65
36MW1041B	8:55	3/28/2003	235744.77	872650.21	93.52	50.21	43.31	-55.75	-60.65
36MW1041C	11:32	6/24/2002	235744.69	872650.07	93.51	52.72	40.79	-35.85	-40.75
36MW1041C	15:04	9/26/2002	235744.69	872650.07	93.51	53.22	40.29	-35.85	-40.75
36MW1041C	9:53	12/24/2002	235744.69	872650.07	93.51	52.88	40.63	-35.85	-40.75
36MW1041C	8:59	3/28/2003	235744.69	872650.07	93.51	50.38	43.13	-35.85	-40.75
36PZ1010	13:04	6/24/2002	234895.62	872068.53	51.64	15.63	36.01	24.37	19.37
36PZ1010	11:41	9/26/2002	234895.62	872068.53	51.64	15.91	35.73	24.37	19.37

Table 3-2
FS-1 Groundwater Elevations,
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Location	Sample Time	Date	Northing (ft)	Easting (ft)	Measurement Point Elevation (ft msl)	Distance to Water (ft mp)	Static Water Elevation (ft msl)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)
36PZ1010	13:59	9/26/2002	234895.62	872068.53	51.64	15.91	35.73	24.37	19.37
36PZ1010	9:37	12/24/2002	234895.62	872068.53	51.64	14.98	36.66	24.37	19.37
36PZ1010	11:04	12/24/2002	234895.62	872068.53	51.64	14.98	36.66	24.37	19.37
36PZ1010	10:01	3/28/2003	234895.62	872068.53	51.64	13.47	38.17	24.37	19.37
36PZ4235	9:50	5/23/2002	234365.22	872383.36	40.38	2.3	38.08	37.18	34.21
36PZ4235	11:09	6/24/2002	234365.22	872383.36	40.38	3.8	36.58	37.18	34.21
36PZ4235	12:59	6/24/2002	234365.22	872383.36	40.38	3.79	36.59	37.18	34.21
36PZ4235	11:45	7/25/2002	234365.22	872383.36	40.38	5.86	34.52	37.18	34.21
36PZ4235	10:20	8/28/2002	234365.22	872383.36	40.38	6.22	34.16	37.18	34.21
36PZ4235	9:48	9/26/2002	234365.22	872383.36	40.38	5.87	34.51	37.18	34.21
36PZ4235	12:18	10/23/2002	234365.22	872383.36	40.38	5.91	34.47	37.18	34.21
36PZ4235	12:52	11/25/2002	234365.22	872383.36	40.38	3.92	36.46	37.18	34.21
36PZ4235	12:02	12/24/2002	234365.22	872383.36	40.38	2.36	38.02	37.18	34.21
36PZ4235	10:15	3/28/2003	234365.22	872383.36	40.38	2.23	38.15	37.18	34.21
36PZ4235	10:25	3/28/2003	234365.22	872383.36	40.38	2.22	38.16	37.18	34.21
36PZ4236	9:35	5/23/2002	235025.81	872099.49	43.07	5.91	37.16	36.78	33.8
36PZ4236	13:15	6/24/2002	235025.81	872099.49	43.07	6.18	36.89	36.78	33.8
36PZ4236	12:00	7/25/2002	235025.81	872099.49	43.07	6.56	36.51	36.78	33.8
36PZ4236	10:35	8/28/2002	235025.81	872099.49	43.07	6.76	36.31	36.78	33.8
36PZ4236	11:46	9/26/2002	235025.81	872099.49	43.07	6.41	36.66	36.78	33.8
36PZ4236	12:00	10/23/2002	235025.81	872099.49	43.07	6.78	36.29	36.78	33.8
36PZ4236	13:06	11/25/2002	235025.81	872099.49	43.07	5.41	37.66	36.78	33.8
36PZ4236	9:45	12/24/2002	235025.81	872099.49	43.07	5.16	37.91	36.78	33.8
36PZ4236	8:10	3/28/2003	235025.81	872099.49	43.07	4.14	38.93	36.78	33.8
36PZ4237	11:35	7/25/2002	234604.57	872230.96	36.48	2.56	33.92	32.51	30.51
36PZ4237	10:05	8/28/2002	234604.57	872230.96	36.48	2.52	33.96	32.51	30.51
36PZ4237	9:38	9/26/2002	234604.57	872230.96	36.48	2.46	34.02	32.51	30.51
36PZ4237	12:35	10/23/2002	234604.57	872230.96	36.48	1.92	34.56	32.51	30.51
36PZ4237	12:40	11/25/2002	234604.57	872230.96	36.48	1.73	34.75	32.51	30.51
36PZ4237	11:33	12/24/2002	234604.57	872230.96	36.48	1.72	34.76	32.51	30.51
36PZ4237	10:33	3/28/2003	234604.57	872230.96	36.48	1.11	35.37	32.51	30.51

Data Source: AFCEE, 15 July 2003, MMR-AFCEE Data Warehouse

Key:

ft = feet

mp = measuring point

msl = mean sea level

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
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Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
00MW0552A	06/18/02	871964	232375	-77.8	-82.8	37.2	117.5	E504	ND	U	0.0022	0.01	13.41	1.21	6.35	123	76	0.4
00MW0552A	09/06/02	871964	232375	-77.8	-82.8	37.2	117.5	E504	ND	U	0.0022	0.01	12.60	1.23	6.48	34	76	0.8
00MW0552A	12/04/02	871964	232375	-77.8	-82.8	37.2	117.5	E504	ND	U	0.0022	0.01	9.96	1.50	6.61	255	77	0.8
00MW0552A	03/24/03	871964	232375	-77.8	-82.8	37.2	117.5	E504	ND	U	0.004	0.01	12.37	2.34	6.54	-14	90	-0.8
00MW0552B	06/18/02	871968	232369	-47.08	-52.08	36.92	86.5	E504	ND	U	0.0022	0.01	12.50	0.42	6.32	130	71	1.9
00MW0552B	09/06/02	871968	232369	-47.08	-52.08	36.92	86.5	E504	ND	U	0.0022	0.01	13.09	0.61	6.40	27	71	5.1
00MW0552B	12/04/02	871968	232369	-47.08	-52.08	36.92	86.5	E504	ND	U	0.0022	0.01	10.80	0.54	6.54	249	72	3.0
00MW0552B	03/24/03	871968	232369	-47.08	-52.08	36.92	86.5	E504	ND	U	0.004	0.01	11.52	0.15	6.37	-150	73	0.7
36EW4001	09/09/02	871817.5	234556.67	17.62	14.62	34.62	18.5	E504	ND	U	0.0022	0.01	18.51	11.52	6.91	178	96	1.7
36EW4005	09/09/02	871816.03	234517.34	18.52	15.52	35.52	18.5	E504	ND	U	0.0022	0.01	18.14	11.44	6.16	175	86	3.8
36EW4010	11/07/02	871814.55	234467.02	18.22	15.22	35.72	19	E504	ND	U	0.0022	0.01	10.58	8.64	5.61	472	126	0.7
36EW4010	11/26/02	871814.55	234467.02	18.22	15.22	35.72	19	E504	0.005	J	0.0022	0.01	10.15	9.75	5.74	477	122	0.5
36EW4010	12/13/02	871814.55	234467.02	18.22	15.22	35.72	19	E504	0.006	J	0.0022	0.01	9.81	9.81	5.93	434	113	2.9
36EW4010	03/24/03	871814.55	234467.02	18.22	15.22	35.72	19	E504	0.092		0.004	0.01	10.01	8.17	5.82	456	98	0
36EW4020	11/07/02	871811.5	234367.61	19.19	16.19	36.19	18.5	E504	0.005	J	0.0022	0.01	10.03	10.99	5.93	449	73	2.8
36EW4020	11/26/02	871811.5	234367.61	19.19	16.19	36.19	18.5	E504	ND	U	0.0022	0.01	10.08	11.10	6.14	435	69	0.3
36EW4020	12/13/02	871811.5	234367.61	19.19	16.19	36.19	18.5	E504	ND	U	0.0022	0.01	10.00	12.28	6.42	424	68	8.0
36EW4020	03/24/03	871811.5	234367.61	19.19	16.19	36.19	18.5	E504	ND	U	0.004	0.01	10.04	10.66	6.09	437	78	1.8
36EW4030	09/09/02	871810.55	234267.49	19.02	16.02	37.02	19.5	E504	0.028		0.0022	0.01	17.46	10.61	6.38	178	72	58
36EW4035	09/11/02	871804.93	234218.4	18.82	15.82	36.82	19.5	E504	0.071		0.0022	0.01	13.94	8.62	6.70	73	64	0.4
36EW4035	11/07/02	871804.93	234218.4	18.82	15.82	36.82	19.5	E504	ND	U	0.0022	0.01	10.10	10.72	5.79	456	58	0.5
36EW4035	11/26/02	871804.93	234218.4	18.82	15.82	36.82	19.5	E504	ND	U	0.0022	0.01	9.89	10.73	6.11	416	59	0.1
36EW4035	12/13/02	871804.93	234218.4	18.82	15.82	36.82	19.5	E504	ND	U	0.0022	0.01	9.87	12.34	6.08	439	53	22
36EW4035	01/28/03	871804.93	234218.4	18.82	15.82	36.82	19.5	E504	ND	U	0.0022	0.01	7.80	10.80	6.30	237	55	4.8
36EW4035	03/24/03	871804.93	234218.4	18.82	15.82	36.82	19.5	E504	ND	U	0.004	0.01	9.77	10.56	6.13	440	57	0
36EW4040	09/11/02	871783.24	234174.92	19.18	16.18	37.18	19.5	E504	0.057		0.0022	0.01	12.19	9.54	6.11	82	64	0.3
36EW4044	09/11/02	871749.9	234152.21	18.57	15.57	36.57	19.5	E504	0.366		0.011	0.05	12.67	7.50	6.13	81	74	0.3
36EW4046	06/17/02	871734	234141.38	20.12	17.12	36.62	18	E504	0.106		0.0022	0.01	12.92	9.76	7.08	95	75	7.8
36EW4046	11/07/02	871734	234141.38	20.12	17.12	36.62	18	E504	0.136		0.0022	0.01	10.51	8.98	6.02	456	76	2.2
36EW4046	11/26/02	871734	234141.38	20.12	17.12	36.62	18	E504	0.025		0.0022	0.01	10.42	7.97	6.16	436	74	0
36EW4046	12/13/02	871734	234141.38	20.12	17.12	36.62	18	E504	0.006	J	0.0022	0.01	10.17	8.71	6.47	416	70	0.2
36EW4046	01/27/03	871734	234141.38	20.12	17.12	36.62	18	E504	ND	U	0.0022	0.01	8.03	9.48	6.71	386	75	1.6
36EW4046	03/24/03	871734	234141.38	20.12	17.12	36.62	18	E504	ND	U	0.004	0.01	10.17	11.13	6.28	441	72	2.2
36EW4048	09/11/02	871717.4	234130	19.33	16.33	36.33	18.5	E504	ND	U	0.0022	0.01	13.11	8.82	6.19	79	72	4.4
36EW4054	11/07/02	871672.84	234091.26	19.42	16.42	35.92	18	E504	ND	U	0.0022	0.01	11.12	6.41	5.76	452	76	0.9
36EW4054	11/26/02	871672.84	234091.26	19.42	16.42	35.92	18	E504	ND	U	0.0022	0.01	10.50	5.77	6.10	406	73	0.4
36EW4054	12/13/02	871672.84	234091.26	19.42	16.42	35.92	18	E504	ND	U	0.0022	0.01	9.83	6.24	6.24	416	66	0.1
36EW4054	01/27/03	871672.84	234091.26	19.42	16.42	35.92	18	E504	0.006	J	0.0022	0.01	8.70	7.51	6.21	399	66	0.6
36EW4054	03/24/03	871672.84	234091.26	19.42	16.42	35.92	18	E504	0.439		0.008	0.02	9.99	5.13	6.07	436	68	0.2
36EW4057	09/12/02	871662.57	234062.79	19.75	16.75	36.25	18	E504	0.026		0.0022	0.01	13.91	10.07	6.79	26	84	0.6
36EW4060	09/12/02	871661.1	234033.42	21.98	18.98	35.98	15.5	E504	0.065		0.0022	0.01	14.13	9.08	5.85	65	82	1.2
36EW4065	11/07/02	871670.88	233984.34	19.78	16.78	35.78	17.5	E504	1.77		0.022	0.1	10.64	1.58	5.85	433	93	0.1
36EW4065	11/26/02	871670.88	233984.34	19.78	16.78	35.78	17.5	E504	0.305		0.0044	0.02	10.34	2.80	6.26	384	90	0.1

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36EW4065	12/13/02	871670.88	233984.34	19.78	16.78	35.78	17.5	E504	0.027		0.0022	0.01	9.60	8.81	6.33	410	73	1.0
36EW4065	01/28/03	871670.88	233984.34	19.78	16.78	35.78	17.5	E504	0.1		0.0022	0.01	9.12	5.81	6.27	346	78	0.3
36EW4065	03/24/03	871670.88	233984.34	19.78	16.78	35.78	17.5	E504	ND	U	0.004	0.01	10.26	8.88	6.19	436	71	0.8
36EW4069	09/13/02	871680.34	233945.79	20.92	17.92	35.42	16	E504	0.09		0.0022	0.01	14.01	9.17	7.00	-12	79	1.6
36EW4074	09/12/02	871689.76	233897.37	18.9	15.9	35.4	18	E504	0.036		0.0022	0.01	13.41	9.47	5.86	58	76	18
36EW4074	11/07/02	871689.76	233897.37	18.9	15.9	35.4	18	E504	0.017		0.0022	0.01	10.86	3.59	6.41	385	97	1.0
36EW4074	11/26/02	871689.76	233897.37	18.9	15.9	35.4	18	E504	0.043		0.0022	0.01	10.28	0.35	6.39	425	104	3.0
36EW4074	12/18/02	871689.76	233897.37	18.9	15.9	35.4	18	E504	0.357		0.0044	0.02	9.63	0.50	6.44	406	107	0.7
36EW4074	01/28/03	871689.76	233897.37	18.9	15.9	35.4	18	E504	0.595		0.011	0.05	7.90	1.82	6.56	450	105	0.1
36EW4074	03/24/03	871689.76	233897.37	18.9	15.9	35.4	18	E504	0.234		0.008	0.02	10.07	0.27	6.32	364	105	0
36EW4082	11/12/02	871679.07	233819.22	18.83	15.83	35.33	18	E504	0.02		0.0022	0.01	12.15	6.17	6.33	405	72	0.5
36EW4082	11/26/02	871679.07	233819.22	18.83	15.83	35.33	18	E504	0.048		0.0022	0.01	11.62	6.14	6.25	406	70	0
36EW4082	01/28/03	871679.07	233819.22	18.83	15.83	35.33	18	E504	0.832		0.011	0.05	9.01	4.12	6.37	355	82	0.3
36EW4083	06/17/02	871674.97	233810.38	19.22	16.22	35.22	17.5	E504	0.034		0.0022	0.01	12.60	7.10	6.25	138	77	0.6
36EW4084	12/18/02	871669.92	233801.32	17.64	14.64	35.14	19	E504	0.108		0.0022	0.01	10.55	1.98	6.36	423	85	0.9
36EW4084	03/24/03	871669.92	233801.32	17.64	14.64	35.14	19	E504	0.012		0.004	0.01	9.78	2.32	6.27	403	78	0
36EW4087	09/13/02	871654.37	233776.12	17.2	14.2	35.2	19.5	E504	0.122		0.0022	0.01	14.86	6.85	6.34	26	81	0.7
36EW4090	06/17/02	871636.09	233754.35	16.5	13.5	34.5	19.5	E504	0.599		0.011	0.05	14.82	8.19	6.55	109	93	3.9
36EW4090	09/13/02	871636.09	233754.35	16.5	13.5	34.5	19.5	E504	0.287		0.0044	0.02	14.86	6.85	6.34	26	81	0.7
36EW4090	11/07/02	871636.09	233754.35	16.5	13.5	34.5	19.5	E504	0.007	J	0.0022	0.01	11.53	0.71	6.38	360	86	0.3
36EW4090	11/26/02	871636.09	233754.35	16.5	13.5	34.5	19.5	E504	0.006	J	0.0022	0.01	11.20	0.92	6.32	403	84	-0.1
36EW4090	12/13/02	871636.09	233754.35	16.5	13.5	34.5	19.5	E504	0.006	J	0.0022	0.01	10.79	9.03	6.32	211	85	-0.3
36EW4090	01/28/03	871636.09	233754.35	16.5	13.5	34.5	19.5	E504	0.006	J	0.0022	0.01	8.18	0.96	6.64	309	84	0.4
36EW4090	03/24/03	871636.09	233754.35	16.5	13.5	34.5	19.5	E504	ND	U	0.004	0.01	10.23	1.28	6.40	400	82	0.1
36EW4092	09/13/02	871620.44	233742.21	17.44	14.44	34.44	18.5	E504	0.31		0.0044	0.02	14.17	7.19	6.27	25	89	1.5
36EW4100	09/16/02	871554.19	233697.37	17.72	14.72	34.22	18	E504	ND	U	0.0022	0.01	16.38	6.55	6.22	147	83	1.7
36EW4100	11/07/02	871554.19	233697.37	17.72	14.72	34.22	18	E504	0.016		0.0022	0.01	11.72	6.19	6.49	400	74	0
36EW4100	11/26/02	871554.19	233697.37	17.72	14.72	34.22	18	E504	0.019		0.0022	0.01	11.34	5.99	6.31	409	72	-0.1
36EW4100	12/13/02	871554.19	233697.37	17.72	14.72	34.22	18	E504	0.043		0.0022	0.01	10.83	8.28	6.40	213	73	0
36EW4100	01/28/03	871554.19	233697.37	17.72	14.72	34.22	18	E504	1.29		0.022	0.1	7.65	4.95	6.65	388	80	2.8
36EW4100	03/24/03	871554.19	233697.37	17.72	14.72	34.22	18	E504	0.6		0.02	0.05	10.08	3.92	6.28	421	77	0
36EW4105	09/16/02	871511.92	233671.83	18.36	15.36	34.36	17.5	E504	ND	U	0.0022	0.01	14.36	6.86	6.43	140	89	1.6
36EW4110	06/17/02	871468.69	233645.72	17.43	14.43	34.43	18.5	E504	ND	U	0.0022	0.01	14.79	9.81	6.74	88	117	1.1
36EW4122	06/17/02	871765.45	233753.67	18.16	15.16	35.16	18.5	E504	ND	U	0.0022	0.01	11.50	9.58	5.03	215	49	2.6
36EW4132	09/16/02	871838.44	233690.6	18.24	15.24	35.24	18.5	E504	ND	U	0.0022	0.01	12.83	9.20	5.90	176	58	25
36EW4132	11/07/02	871838.44	233690.6	18.24	15.24	35.24	18.5	E504	ND	U	0.0022	0.01	10.61	8.86	6.08	429	61	0.3
36EW4132	11/26/02	871838.44	233690.6	18.24	15.24	35.24	18.5	E504	ND	U	0.0022	0.01	10.62	8.90	6.01	434	58	0.1
36EW4132	12/18/02	871838.44	233690.6	18.24	15.24	35.24	18.5	E504	ND	U	0.0022	0.01	9.43	9.17	6.18	435	61	0.7
36EW4132	01/28/03	871838.44	233690.6	18.24	15.24	35.24	18.5	E504	ND	U	0.0022	0.01	8.54	9.97	6.01	423	62	0.8
36EW4132	03/25/03	871838.44	233690.6	18.24	15.24	35.24	18.5	E504	ND	U	0.004	0.01	9.56	9.76	6.12	444	60	0
36EW4134	09/17/02	871848.85	233673.84	18.11	15.11	35.11	18.5	E504	ND	U	0.0022	0.01	12.00	9.71	6.89	300	63	2.9
36EW4135	11/07/02	871853.9	233665.22	17.38	14.38	34.38	18.5	E504	ND	U	0.0022	0.01	11.16	10.11	5.99	432	59	4.0
36EW4135	11/26/02	871853.9	233665.22	17.38	14.38	34.38	18.5	E504	ND	U	0.0022	0.01	10.88	9.71	6.29	442	57	1.9

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36EW4135	12/13/02	871853.9	233665.22	17.38	14.38	34.38	18.5	E504	ND	U	0.0022	0.01	10.25	10.83	6.11	242	58	2.1
36EW4135	01/28/03	871853.9	233665.22	17.38	14.38	34.38	18.5	E504	ND	U	0.0022	0.01	8.09	10.24	6.17	422	61	2.9
36EW4135	03/25/03	871853.9	233665.22	17.38	14.38	34.38	18.5	E504	ND	U	0.004	0.01	9.28	10.11	6.17	418	59	2.4
36EW4137	06/17/02	871629	233706.74	20.48	17.15	30.69	11.88	E504	0.928		0.011	0.05	17.28	7.68	5.98	128	110	10
36EW4137	09/17/02	871629	233706.74	20.48	17.15	30.69	11.88	E504	0.308		0.0044	0.02	12.54	6.93	7.17	267	101	27
36EW4137	11/07/02	871629	233706.74	20.48	17.15	30.69	11.88	E504	0.063		0.0022	0.01	11.22	4.77	6.54	260	93	0.7
36EW4137	11/26/02	871629	233706.74	20.48	17.15	30.69	11.88	E504	0.724		0.011	0.05	11.35	3.05	6.35	408	96	0.7
36EW4137	12/13/02	871629	233706.74	20.48	17.15	30.69	11.88	E504	0.681		0.011	0.05	10.66	10.43	6.42	195	90	1.1
36EW4137	03/25/03	871629	233706.74	20.48	17.15	30.69	11.88	E504	0.021		0.004	0.01	8.63	0.81	6.43	307	90	0.0
36EW4140	06/17/02	871605.01	233689.01	23.76	20.43	30.68	8.59	E504	0.354		0.0044	0.02	17.41	6.03	6.48	143	48	11
36EW4140	09/17/02	871605.01	233689.01	23.76	20.43	30.68	8.59	E504	0.321		0.0044	0.02	13.41	4.40	7.27	251	93	16
36EW4143	09/19/02	871584.05	233668.84	22.23	18.9	30.73	10.17	E504	0.151		0.0022	0.01	17.08	5.04	6.96	26	82	11
36EW4147	09/19/02	871549.63	233647.96	23.31	20.01	30.72	9.06	E504	0.006	J	0.0022	0.01	16.98	6.08	6.37	9	93	13
36EW4149	11/07/02	871532.82	233635.63	19.53	16.2	29.74	11.88	E504	0.014		0.0022	0.01	12.19	2.95	6.52	252	76	1.1
36EW4149	11/26/02	871532.82	233635.63	19.53	16.2	29.74	11.88	E504	0.043		0.0022	0.01	12.01	5.47	6.33	404	75	1.2
36EW4149	12/13/02	871532.82	233635.63	19.53	16.2	29.74	11.88	E504	0.38		0.0044	0.02	11.58	8.66	6.56	193	76	0.7
36EW4149	03/25/03	871532.82	233635.63	19.53	16.2	29.74	11.88	E504	0.14		0.004	0.01	9.20	4.87	6.42	440	71	0.1
36EW4150	06/17/02	871525.25	233630.8	18.82	15.49	30.76	13.61	E504	ND	U	0.0022	0.01	16.04	7.58	6.47	107	78	13
36EW4150	09/19/02	871525.25	233630.8	18.82	15.49	30.76	13.61	E504	ND	U	0.0022	0.01	17.00	5.23	6.14	41	79	9.9
36MW0002	06/25/02	870832.00	241852.00	59.29	49.29	105.75	51.46	SW8260	ND	U	0.986	2	17.45	1.26	5.95	-20	91	0.8
36MW0002	09/16/02	870832.00	241852.00	59.29	49.29	105.75	51.46	SW8260	ND	U	0.986	2	17.35	0.91	5.84	-106	97	1.9
36MW0002	12/16/02	870832.00	241852.00	59.29	49.29	105.75	51.46	SW8260	ND	U	0.493	1	13.00	1.68	5.88	-18	91	-0.2
36MW0002	03/20/03	870832.00	241852.00	59.29	49.29	105.75	51.46	SW8260	ND	U	1.84	5	14.67	0.90	5.86	47	88	2.4
36MW0007	06/25/02	870793.00	241934.00	61.20	51.2	107.2	51	SW8260	ND	U	0.493	1	16.71	1.22	5.71	-56	91	1.5
36MW0007	09/16/02	870793.00	241934.00	61.20	51.2	107.2	51	SW8260	ND	U	0.986	2	16.49	0.79	5.56	-86	79	1.3
36MW0007	12/16/02	870793.00	241934.00	61.20	51.2	107.2	51	SW8260	ND	U	0.493	1	14.15	0.88	5.56	14	75	-0.2
36MW0007	03/20/03	870793.00	241934.00	61.20	51.2	107.2	51	SW8260	ND	U	0.368	1	13.72	3.35	5.39	182	79	1.6
36MW0010A	06/25/02	871045.00	241336.00	38.10	33.1	108.1	72.5	SW8260	ND	U	0.493	1	15.24	9.55	5.16	399	52	0.4
36MW0010A	09/16/02	871045.00	241336.00	38.10	33.1	108.1	72.5	SW8260	ND	U	0.493	1	15.95	7.74	5.03	193	51	0.6
36MW0010A	12/16/02	871045.00	241336.00	38.10	33.1	108.1	72.5	SW8260	ND	U	0.493	1	12.44	6.38	4.97	281	55	-0.2
36MW0010A	03/20/03	871045.00	241336.00	38.10	33.1	108.1	72.5	SW8260	ND	U	0.368	1	12.71	5.77	4.95	459	57	0.2
36MW0015	06/25/02	870759.00	241917.00	-19.25	-24.25	106.6	128.35	SW8260	ND	U	0.493	1	16.26	9.68	6.06	318	70	3.2
36MW0015	09/17/02	870759.00	241917.00	-19.25	-24.25	106.6	128.35	SW8260	ND	U	0.493	1	14.86	11.28	5.74	73	70	4.8
36MW0015	12/16/02	870759.00	241917.00	-19.25	-24.25	106.6	128.35	SW8260	ND	U	0.493	1	11.52	10.45	5.92	216	70	4.1
36MW0015	03/20/03	870759.00	241917.00	-19.25	-24.25	106.6	128.35	SW8260	ND	U	0.368	1	12.47	10.30	5.99	433	68	8.0
36MW0131A	06/11/02	872235.61	234439.92	-127.85	-132.85	52.15	182.5	E504	3.63		0.044	0.2	11.72	1.24	6.01	116	113	3.0
36MW0131A	09/09/02	872235.61	234439.92	-127.85	-132.85	52.15	182.5	E504	1.65		0.044	0.2	13.39	1.47	6.21	63	110	3.0
36MW0131A	11/06/02	872235.61	234439.92	-127.85	-132.85	52.15	182.5	E504	3.41		0.044	0.2	11.24	0.75	6.41	358	112	3.3
36MW0131A	11/22/02	872235.61	234439.92	-127.85	-132.85	52.15	182.5	E504	5.48		0.088	0.4	11.41	0.87	6.17	450	115	2.9
36MW0131A	12/12/02	872235.61	234439.92	-127.85	-132.85	52.15	182.5	E504	7.13		0.088	0.4	10.24	0.74	6.28	386	120	3.7
36MW0131A	01/21/03	872235.61	234439.92	-127.85	-132.85	52.15	182.5	E504	7.58		0.088	0.4	9.25	0.79	6.26	189	117	2.8
36MW0131A	03/14/03	872235.61	234439.92	-127.85	-132.85	52.15	182.5	E504	7.38		0.16	0.4	10.50	1.16	6.08	-49	117	3.0
36MW0131B	06/11/02	872228.36	234439.51	-80.63	-85.63	53.37	136.5	E504	0.155		0.0022	0.01	12.77	1.99	6.09	123	96	1.1

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May 2002 - April 2003
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Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36MW0131B	09/09/02	872228.36	234439.51	-80.63	-85.63	53.37	136.5	E504	0.329		0.0044	0.02	13.51	0.93	6.18	71	102	1.0
36MW0131B	11/06/02	872228.36	234439.51	-80.63	-85.63	53.37	136.5	E504	0.06		0.0022	0.01	10.88	0.39	6.50	333	93	0.3
36MW0131B	11/22/02	872228.36	234439.51	-80.63	-85.63	53.37	136.5	E504	0.057		0.0022	0.01	11.34	0.76	6.27	443	92	1.7
36MW0131B	12/12/02	872228.36	234439.51	-80.63	-85.63	53.37	136.5	E504	0.22		0.0044	0.02	10.34	0.43	6.38	384	98	0.9
36MW0131B	01/21/03	872228.36	234439.51	-80.63	-85.63	53.37	136.5	E504	0.745		0.011	0.05	9.10	0.69	6.37	269	97	0.6
36MW0131B	03/14/03	872228.36	234439.51	-80.63	-85.63	53.37	136.5	E504	5.89		0.16	0.4	10.37	2.24	6.15	-23	105	0.5
36MW0131C	06/11/02	872228.4	234439.31	-31.63	-36.63	53.37	87.5	E504	ND	U	0.0022	0.01	12.25	10.33	5.68	201	66	1.0
36MW0131C	09/09/02	872228.4	234439.31	-31.63	-36.63	53.37	87.5	E504	ND	U	0.0022	0.01	13.67	10.39	5.82	132	66	1.0
36MW0131C	11/06/02	872228.4	234439.31	-31.63	-36.63	53.37	87.5	E504	ND	U	0.0022	0.01	11.15	10.99	6.12	419	65	3.6
36MW0131C	11/22/02	872228.4	234439.31	-31.63	-36.63	53.37	87.5	E504	ND	U	0.0022	0.01	12.07	10.63	5.89	468	65	1.5
36MW0131C	12/12/02	872228.4	234439.31	-31.63	-36.63	53.37	87.5	E504	ND	U	0.0022	0.01	10.37	11.96	6.01	442	68	2.2
36MW0131C	01/21/03	872228.4	234439.31	-31.63	-36.63	53.37	87.5	E504	ND	U	0.0022	0.01	9.90	11.28	6.04	396	64	0.8
36MW0131C	03/14/03	872228.4	234439.31	-31.63	-36.63	53.37	87.5	E504	ND	U	0.004	0.01	10.01	11.99	5.87	61	64	1.4
36MW0132A	06/11/02	871753.9	233921.7	-130.7	-135.7	54.3	187.5	E504	0.443		0.011	0.05	13.48	1.13	6.09	118	75	4.6
36MW0132A	09/10/02	871753.9	233921.7	-130.7	-135.7	54.3	187.5	E504	0.752		0.011	0.05	13.87	0.89	6.21	4	77	2.0
36MW0132A	11/06/02	871753.9	233921.7	-130.7	-135.7	54.3	187.5	E504	0.225		0.0022	0.01	11.48	0.98	6.40	329	75	3.2
36MW0132A	11/22/02	871753.9	233921.7	-130.7	-135.7	54.3	187.5	E504	0.175		0.0022	0.01	11.46	0.91	6.36	240	72	3.4
36MW0132A	12/13/02	871753.9	233921.7	-130.7	-135.7	54.3	187.5	E504	0.186		0.0022	0.01	11.44	1.11	6.37	284	71	3.7
36MW0132A	01/23/03	871753.9	233921.7	-130.7	-135.7	54.3	187.5	E504	0.339		0.0044	0.02	10.17	0.72	6.40	272	72	36
36MW0132A	03/14/03	871753.9	233921.7	-130.7	-135.7	54.3	187.5	E504	0.224		0.004	0.01	10.25	0.73	6.42	163	73	15
36MW0132B	06/11/02	871753.9	233921.6	-80.7	-85.7	54.3	137.5	E504	2.96		0.044	0.2	13.16	4.19	5.87	179	79	1.9
36MW0132B	09/10/02	871753.9	233921.6	-80.7	-85.7	54.3	137.5	E504	1.46		0.044	0.2	15.48	3.85	5.96	58	76	2.0
36MW0132B	11/06/02	871753.9	233921.6	-80.7	-85.7	54.3	137.5	E504	1.81		0.022	0.1	11.67	3.97	6.18	381	80	2.2
36MW0132B	11/22/02	871753.9	233921.6	-80.7	-85.7	54.3	137.5	E504	2.08		0.022	0.1	12.77	3.92	6.18	295	79	6.3
36MW0132B	12/13/02	871753.9	233921.6	-80.7	-85.7	54.3	137.5	E504	2.43		0.044	0.2	11.71	4.18	6.20	291	79	1.7
36MW0132B	01/23/03	871753.9	233921.6	-80.7	-85.7	54.3	137.5	E504	3		0.044	0.2	9.50	4.02	6.23	341	79	0.6
36MW0132B	03/14/03	871753.9	233921.6	-80.7	-85.7	54.3	137.5	E504	2.67		0.08	0.2	10.57	3.92	6.03	209	81	1.2
36MW0132C	06/11/02	871753.8	233936	-23.39	-28.39	54.61	80.5	E504	0.709		0.011	0.05	15.00	0.92	6.02	147	98	1.7
36MW0132C	09/10/02	871753.8	233936	-23.39	-28.39	54.61	80.5	E504	0.323		0.0044	0.02	13.57	0.35	5.84	60	98	0.7
36MW0132C	11/06/02	871753.8	233936	-23.39	-28.39	54.61	80.5	E504	0.272		0.0044	0.02	11.94	0.43	6.23	360	100	0.4
36MW0132C	11/22/02	871753.8	233936	-23.39	-28.39	54.61	80.5	E504	0.264		0.0044	0.02	12.05	0.58	6.25	250	94	0.8
36MW0132C	12/13/02	871753.8	233936	-23.39	-28.39	54.61	80.5	E504	0.251		0.0022	0.01	13.48	0.96	6.28	293	92	4.2
36MW0132C	01/23/03	871753.8	233936	-23.39	-28.39	54.61	80.5	E504	0.276		0.0044	0.02	10.47	1.46	6.29	309	92	1.6
36MW0132C	03/14/03	871753.8	233936	-23.39	-28.39	54.61	80.5	E504	0.16		0.004	0.01	10.76	2.09	6.13	119	90	8.5
36MW0133	06/27/02	871814.6	233262.4	-20.96	-25.96	34.04	57.5	E504	ND	U	0.0022	0.01	19.94	1.47	6.35	4	99	2.5
36MW0133	09/06/02	871814.6	233262.4	-20.96	-25.96	34.04	57.5	E504	ND	U	0.0022	0.01	12.95	0.35	6.29	-64	99	2.4
36MW0133	11/06/02	871814.6	233262.4	-20.96	-25.96	34.04	57.5	E504	ND	U	0.0022	0.01	12.40	0.72	6.39	17	102	2.3
36MW0133	11/22/02	871814.6	233262.4	-20.96	-25.96	34.04	57.5	E504	ND	U	0.0022	0.01	11.72	0.37	6.44	75	100	5.2
36MW0133	12/16/02	871814.6	233262.4	-20.96	-25.96	34.04	57.5	E504	ND	U	0.0022	0.01	10.32	0.33	6.60	205	99	2.1
36MW0133	01/29/03	871814.6	233262.4	-20.96	-25.96	34.04	57.5	E504	ND	U	0.0022	0.01	9.67	0.64	6.49	98	97	2.2
36MW0133	03/28/03	871814.6	233262.4	-20.96	-25.96	34.04	57.5	E504	ND	U	0.004	0.01	11.39	0.04	6.27	63	111	1.0
36MW0135	06/27/02	871320.1	233627.6	-140.52	-145.52	34.48	177.5	E504	ND	U	0.0022	0.01	13.81	0.32	6.72	34	90	6.8
36MW0135	09/18/02	871320.1	233627.6	-140.52	-145.52	34.48	177.5	E504	ND	U	0.0022	0.01	13.83	0.32	6.54	36	90	11

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36MW0135	11/08/02	871320.1	233627.6	-140.52	-145.52	34.48	177.5	E504	ND	U	0.0022	0.01	12.32	0.44	6.72	159	94	14
36MW0135	11/25/02	871320.1	233627.6	-140.52	-145.52	34.48	177.5	E504	ND	U	0.0022	0.01	12.23	0.27	6.61	248	95	10
36MW0135	12/16/02	871320.1	233627.6	-140.52	-145.52	34.48	177.5	E504	ND	U	0.0022	0.01	10.76	0.56	7.08	112	90	16
36MW0135	01/30/03	871320.1	233627.6	-140.52	-145.52	34.48	177.5	E504	ND	U	0.0022	0.01	10.91	0.28	6.96	101	94	5.4
36MW0135	03/25/03	871320.1	233627.6	-140.52	-145.52	34.48	177.5	E504	ND	U	0.004	0.01	11.16	0.62	6.81	124	90	15
36MW0136	06/27/02	872068.8	233717.3	-89.74	-94.26	55.74	147.74	E504	0.015		0.0022	0.01	13.63	0.48	6.49	5	112	6.8
36MW0136	09/18/02	872068.8	233717.3	-89.74	-94.26	55.74	147.74	E504	0.01		0.0022	0.01	12.23	0.31	6.36	1	112	3.5
36MW0136	11/08/02	872068.8	233717.3	-89.74	-94.26	55.74	147.74	E504	0.018		0.0022	0.01	11.18	0.12	6.47	243	116	7.6
36MW0136	11/27/02	872068.8	233717.3	-89.74	-94.26	55.74	147.74	E504	0.027		0.0022	0.01	10.11	0.43	6.44	43	114	3.3
36MW0136	12/16/02	872068.8	233717.3	-89.74	-94.26	55.74	147.74	E504	0.031		0.0022	0.01	10.21	0.44	6.32	361	116	16
36MW0136	01/22/03	872068.8	233717.3	-89.74	-94.26	55.74	147.74	E504	0.056		0.0022	0.01	8.82	0.51	6.60	122	112	4.3
36MW0136	03/25/03	872068.8	233717.3	-89.74	-94.26	55.74	147.74	E504	0.086		0.004	0.01	10.78	0.63	6.45	155	113	4.6
36MW0137	06/20/02	871873.39	235102.6	-47.66	-52.66	58.34	108.5	E504	0.054		0.0022	0.01	12.67	8.59	5.57	490	74	0.1
36MW0137	09/17/02	871873.39	235102.6	-47.66	-52.66	58.34	108.5	E504	0.08		0.0022	0.01	13.22	9.90	5.42	89	75	0.8
36MW0137	12/10/02	871873.39	235102.6	-47.66	-52.66	58.34	108.5	E504	0.101		0.0022	0.01	10.80	8.61	5.68	209	76	-0.4
36MW0137	03/25/03	871873.39	235102.6	-47.66	-52.66	58.34	108.5	E504	0.117		0.004	0.01	11.54	7.93	5.62	271	75	4.6
36MW0139	06/20/02	871637.83	235174.52	-47.63	-52.63	47.37	97.5	E504	ND	U	0.0022	0.01	14.32	8.73	5.55	414	72	0.9
36MW0139	09/17/02	871637.83	235174.52	-47.63	-52.63	47.37	97.5	E504	ND	U	0.0022	0.01	13.61	10.19	5.43	86	71	2.4
36MW0139	12/10/02	871637.83	235174.52	-47.63	-52.63	47.37	97.5	E504	ND	U	0.0022	0.01	10.99	8.82	5.62	246	70	-0.1
36MW0139	03/26/03	871637.83	235174.52	-47.63	-52.63	47.37	97.5	E504	ND	U	0.004	0.01	11.93	8.16	5.62	470	69	0.6
36MW0140	06/20/02	872715.1	234664.7	-84.56	-89.56	50.44	137.5	E504	ND	U	0.0022	0.01	12.77	0.31	6.34	197	115	6.0
36MW0140	09/11/02	872715.1	234664.7	-84.56	-89.56	50.44	137.5	E504	ND	U	0.0022	0.01	12.20	0.26	6.36	-11	113	8.4
36MW0140	11/07/02	872715.1	234664.7	-84.56	-89.56	50.44	137.5	E504	ND	U	0.0022	0.01	10.79	0.24	6.52	-9	115	11
36MW0140	11/25/02	872715.1	234664.7	-84.56	-89.56	50.44	137.5	E504	ND	U	0.0022	0.01	11.14	0.21	6.32	278	118	9.4
36MW0140	12/16/02	872715.1	234664.7	-84.56	-89.56	50.44	137.5	E504	ND	U	0.0022	0.01	9.51	0.19	6.35	323	119	7.6
36MW0140	01/29/03	872715.1	234664.7	-84.56	-89.56	50.44	137.5	E504	ND	U	0.0022	0.01	10.09	0.30	6.57	40	113	7.1
36MW0140	03/25/03	872715.1	234664.7	-84.56	-89.56	50.44	137.5	E504	ND	U	0.004	0.01	11.05	0.42	6.38	72	113	4.2
36MW0141	06/20/02	873857.7	235522.1	-119.7	-124.7	95.3	217.5	E504	ND	U	0.0022	0.01	12.59	0.28	6.69	120	96	16
36MW0141	09/11/02	873857.7	235522.1	-119.7	-124.7	95.3	217.5	E504	ND	U	0.0022	0.01	12.36	0.23	6.70	-74	95	13
36MW0141	12/04/02	873857.7	235522.1	-119.7	-124.7	95.3	217.5	E504	ND	U	0.0022	0.01	11.50	0.27	7.00	-59	95	25
36MW0141	03/25/03	873857.7	235522.1	-119.7	-124.7	95.3	217.5	E504	ND	U	0.004	0.01	10.92	0.48	6.76	-42	96	9.7
36MW0143	06/27/02	871160.9	233279.2	-130.06	-135.06	34.94	167.5	E504	ND	U	0.0022	0.01	15.31	0.42	7.10	-98	127	9.4
36MW0143	09/11/02	871160.9	233279.2	-130.06	-135.06	34.94	167.5	E504	ND	U	0.0022	0.01	13.51	0.30	7.08	-121	134	3.2
36MW0143	12/12/02	871160.9	233279.2	-130.06	-135.06	34.94	167.5	E504	ND	U	0.0022	0.01	11.01	0.28	7.42	-60	138	3.8
36MW0143	03/28/03	871160.9	233279.2	-130.06	-135.06	34.94	167.5	E504	ND	U	0.004	0.01	12.32	0.03	7.10	-130	142	3.2
36MW0501	06/26/02	872993.51	237066.31	-66.62	-71.62	78.38	147.5	E504	ND	U	0.0022	0.01	12.78	8.71	4.98	352	65	0.7
36MW0501	09/18/02	872993.51	237066.31	-66.62	-71.62	78.38	147.5	E504	ND	U	0.0022	0.01	14.57	7.98	5.97	96	66	2.3
36MW0501	12/09/02	872993.51	237066.31	-66.62	-71.62	78.38	147.5	E504	ND	U	0.0022	0.01	9.85	8.60	6.04	246	67	-0.4
36MW0501	03/21/03	872993.51	237066.31	-66.62	-71.62	78.38	147.5	E504	ND	U	0.004	0.01	11.05	8.68	6.09	378	67	0.3
36MW0503A	06/26/02	872331.03	236911.44	-86.79	-91.79	103.21	192.5	E504	0.896		0.011	0.05	13.24	1.89	5.33	267	78	2.1
36MW0503A	09/09/02	872331.03	236911.44	-86.79	-91.79	103.21	192.5	E504	0.692		0.011	0.05	14.49	3.16	6.71	357	79	0.7
36MW0503A	12/04/02	872331.03	236911.44	-86.79	-91.79	103.21	192.5	E504	0.915		0.011	0.05	10.01	2.41	5.73	444	79	2.5
36MW0503A	03/14/03	872331.03	236911.44	-86.79	-91.79	103.21	192.5	E504	0.867		0.02	0.05	10.84	3.38	5.75	9	78	0.6

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36MW0503B	06/26/02	872337.26	236913.42	-41.9	-46.9	103.1	147.5	E504	0.056		0.0022	0.01	14.19	1.75	5.29	301	72	0.2
36MW0503B	09/09/02	872337.26	236913.42	-41.9	-46.9	103.1	147.5	E504	0.072		0.0022	0.01	14.57	1.85	6.70	343	76	0
36MW0503B	12/04/02	872337.26	236913.42	-41.9	-46.9	103.1	147.5	E504	0.053		0.0022	0.01	10.58	1.37	5.56	418	77	2.0
36MW0503B	03/14/03	872337.26	236913.42	-41.9	-46.9	103.1	147.5	E504	0.046		0.004	0.01	11.41	1.60	5.59	-36	76	1.5
36MW0503C	06/26/02	872343	236913.84	-12.13	-17.13	102.87	117.5	E504	0.017		0.0022	0.01	14.05	8.61	5.25	320	67	0.5
36MW0503C	09/09/02	872343	236913.84	-12.13	-17.13	102.87	117.5	E504	0.014		0.0022	0.01	15.29	8.98	6.77	307	72	1.5
36MW0503C	12/04/02	872343	236913.84	-12.13	-17.13	102.87	117.5	E504	0.014		0.0022	0.01	11.68	8.84	5.60	445	73	0.7
36MW0503C	03/14/03	872343	236913.84	-12.13	-17.13	102.87	117.5	E504	0.013		0.004	0.01	11.16	9.82	5.64	40	70	0.4
36MW0504	06/26/02	871835.56	236799.15	-98.15	-103.15	78.85	179.5	E504	ND	U	0.0022	0.01	13.00	9.52	5.27	320	76	0.7
36MW0504	09/18/02	871835.56	236799.15	-98.15	-103.15	78.85	179.5	E504	ND	U	0.0022	0.01	12.61	8.99	5.83	98	78	1.2
36MW0504	12/30/02	871835.56	236799.15	-98.15	-103.15	78.85	179.5	E504	ND	U	0.0022	0.01	10.48	9.36	5.87	478	78	0.7
36MW0504	04/21/03	871835.56	236799.15	-98.15	-103.15	78.85	179.5	E504	ND	U	0.004	0.01	12.27	9.21	5.52	96	79	0.6
36MW0603A	06/24/02	871954.33	239410.86	-84.32	-89.32	110.68	197.5	E504	0.189		0.0022	0.01	14.79	6.40	5.08	276	76	1.6
36MW0603A	09/26/02	871954.33	239410.86	-84.32	-89.32	110.68	197.5	E504	0.121		0.0022	0.01	14.08	7.13	6.49	275	79	7.3
36MW0603A	12/30/02	871954.33	239410.86	-84.32	-89.32	110.68	197.5	E504	0.153		0.0022	0.01	10.99	6.12	5.67	450	75	4.5
36MW0603A	04/28/03	871954.33	239410.86	-84.32	-89.32	110.68	197.5	E504	0.091		0.004	0.01	13.87	6.32	5.38	330	75	0.8
36MW0603B	06/24/02	871949.72	239406.93	-34.37	-39.37	110.63	147.5	E504	ND	U	0.0022	0.01	15.17	1.56	5.10	305	51	1.4
36MW0603B	09/26/02	871949.72	239406.93	-34.37	-39.37	110.63	147.5	E504	ND	U	0.0022	0.01	14.45	4.54	6.41	270	57	1.2
36MW0603B	12/30/02	871949.72	239406.93	-34.37	-39.37	110.63	147.5	E504	0.005	J	0.0022	0.01	12.13	2.08	5.68	444	52	1.6
36MW0603B	04/28/03	871949.72	239406.93	-34.37	-39.37	110.63	147.5	E504	ND	U	0.004	0.01	14.29	0.77	5.48	313	52	0.1
36MW0604	06/24/02	871643	239187	-82.92	-87.92	112.08	197.5	E504	ND	U	0.0022	0.01	15.40	9.57	4.98	338	64	3.2
36MW0604	09/26/02	871643	239187	-82.92	-87.92	112.08	197.5	E504	ND	U	0.0022	0.01	13.30	9.60	6.36	323	68	3.5
36MW0604	12/30/02	871643	239187	-82.92	-87.92	112.08	197.5	E504	ND	U	0.0022	0.01	11.39	10.13	5.62	485	63	0.3
36MW0604	04/28/03	871643	239187	-82.92	-87.92	112.08	197.5	E504	ND	U	0.004	0.01	13.55	9.94	5.62	309	63	0.5
36MW1001A	06/21/02	871589.22	233707.19	-110.52	-115.52	34.48	147.5	E504	ND	U	0.0022	0.01	13.49	0.62	6.15	62	67	3.2
36MW1001A	09/23/02	871589.22	233707.19	-110.52	-115.52	34.48	147.5	E504	ND	U	0.0022	0.01	13.99	0.50	5.90	-17	68	4.4
36MW1001A	11/08/02	871589.22	233707.19	-110.52	-115.52	34.48	147.5	E504	ND	U	0.0022	0.01	11.89	0.50	6.43	329	70	2.5
36MW1001A	11/25/02	871589.22	233707.19	-110.52	-115.52	34.48	147.5	E504	ND	U	0.0022	0.01	12.28	0.99	6.18	405	72	4.3
36MW1001A	12/16/02	871589.22	233707.19	-110.52	-115.52	34.48	147.5	E504	ND	U	0.0022	0.01	10.15	1.66	6.46	476	69	4.4
36MW1001A	01/24/03	871589.22	233707.19	-110.52	-115.52	34.48	147.5	E504	ND	U	0.0022	0.01	7.83	0.75	6.51	427	68	1.6
36MW1001A	03/25/03	871589.22	233707.19	-110.52	-115.52	34.48	147.5	E504	ND	U	0.004	0.01	10.97	2.05	6.35	403	68	1.1
36MW1001B	06/21/02	871582.1	233701.23	-60.37	-65.37	34.63	97.5	E504	0.139		0.0022	0.01	14.01	3.73	6.12	112	72	3.9
36MW1001B	09/23/02	871582.1	233701.23	-60.37	-65.37	34.63	97.5	E504	0.098		0.0022	0.01	14.10	3.44	6.02	32	72	13
36MW1001B	11/08/02	871582.1	233701.23	-60.37	-65.37	34.63	97.5	E504	0.054		0.0022	0.01	12.06	1.80	6.45	358	72	7.7
36MW1001B	11/25/02	871582.1	233701.23	-60.37	-65.37	34.63	97.5	E504	0.032		0.0022	0.01	12.38	1.78	6.28	425	73	3.2
36MW1001B	12/16/02	871582.1	233701.23	-60.37	-65.37	34.63	97.5	E504	0.032		0.0022	0.01	10.28	2.10	6.48	492	72	5.3
36MW1001B	01/24/03	871582.1	233701.23	-60.37	-65.37	34.63	97.5	E504	0.079		0.0022	0.01	9.55	2.08	6.37	419	69	2.8
36MW1001B	03/25/03	871582.1	233701.23	-60.37	-65.37	34.63	97.5	E504	0.051		0.004	0.01	11.81	2.12	6.33	383	68	1.8
36MW1003A	11/07/02	871920.23	234669.74	-112.61	-117.61	36.49	151.6	E504	ND	U	0.0022	0.01	10.87	9.08	6.22	203	90	0.9
36MW1003A	11/27/02	871920.23	234669.74	-112.61	-117.61	36.49	151.6	E504	ND	U	0.0022	0.01	9.61	8.32	6.19	393	85	2.6
36MW1003A	12/18/02	871920.23	234669.74	-112.61	-117.61	36.49	151.6	E504	ND	U	0.0022	0.01	10.78	6.46	6.32	436	79	4.3
36MW1003A	01/27/03	871920.23	234669.74	-112.61	-117.61	36.49	151.6	E504	0.006	J	0.0022	0.01	9.45	7.39	6.17	203	79	9.3
36MW1003A	03/26/03	871920.23	234669.74	-112.61	-117.61	36.49	151.6	E504	0.006	J	0.004	0.01	12.54	5.29	6.33	398	70	0.9

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36MW1010A	06/13/02	872068.36	234895.77	-171.13	-181.13	49.37	225.5	E504	0.025		0.0022	0.01	11.92	4.99	6.31	282	155	19
36MW1010A	09/09/02	872068.36	234895.77	-171.13	-181.13	49.37	225.5	E504	0.043		0.0022	0.01	13.21	2.80	5.70	111	102	36
36MW1010A	12/12/02	872068.36	234895.77	-171.13	-181.13	49.37	225.5	E504	0.02		0.0022	0.01	11.21	5.36	6.04	196	106	19
36MW1010A	03/18/03	872068.36	234895.77	-171.13	-181.13	49.37	225.5	E504	0.065		0.004	0.01	10.78	3.97	5.54	229	69	16
36MW1010B	06/13/02	872071.15	234921.5	-109.37	-114.37	50.63	162.5	E504	0.63		0.011	0.05	11.40	5.17	5.98	413	86	1.0
36MW1010B	09/09/02	872071.15	234921.5	-109.37	-114.37	50.63	162.5	E504	0.36		0.0022	0.01	14.78	5.12	5.62	234	86	4.9
36MW1010B	11/07/02	872071.15	234921.5	-109.37	-114.37	50.63	162.5	E504	0.476		0.011	0.05	10.97	4.47	5.88	209	91	2.4
36MW1010B	11/25/02	872071.15	234921.5	-109.37	-114.37	50.63	162.5	E504	0.48		0.011	0.05	11.38	4.23	5.81	447	90	3.4
36MW1010B	12/12/02	872071.15	234921.5	-109.37	-114.37	50.63	162.5	E504	0.507		0.011	0.05	10.28	5.35	5.89	342	91	2.2
36MW1010B	01/27/03	872071.15	234921.5	-109.37	-114.37	50.63	162.5	E504	0.576		0.011	0.05	9.69	3.95	5.70	223	92	5.0
36MW1010B	03/18/03	872071.15	234921.5	-109.37	-114.37	50.63	162.5	E504	0.526		0.02	0.05	10.31	3.80	5.91	348	91	1.4
36MW1010C	06/13/02	872068.3	234895.7	-31.13	-36.13	49.37	83	E504	ND	U	0.0022	0.01	11.79	11.62	5.76	428	58	0.7
36MW1010C	09/09/02	872068.3	234895.7	-31.13	-36.13	49.37	83	E504	ND	U	0.0022	0.01	14.51	11.06	5.35	267	56	2.3
36MW1010C	12/12/02	872068.3	234895.7	-31.13	-36.13	49.37	83	E504	ND	U	0.0022	0.01	11.04	10.98	5.74	376	59	2.6
36MW1010C	03/18/03	872068.3	234895.7	-31.13	-36.13	49.37	83	E504	ND	U	0.004	0.01	10.76	11.01	5.84	370	60	0.7
36MW1011A	06/13/02	871376.33	233119.52	-60.38	-65.38	34.62	97.5	E504	ND	U	0.0022	0.01	12.90	0.24	6.98	220	87	20
36MW1011A	09/13/02	871376.33	233119.52	-60.38	-65.38	34.62	97.5	E504	ND	U	0.0022	0.01	13.68	0.25	7.04	249	89	19
36MW1011A	12/05/02	871376.33	233119.52	-60.38	-65.38	34.62	97.5	E504	ND	U	0.0022	0.01	11.22	0.45	6.89	190	97	30
36MW1011A	03/24/03	871376.33	233119.52	-60.38	-65.38	34.62	97.5	E504	ND	U	0.004	0.01	11.49	0.24	6.70	-120	95	9.3
36MW1011B	06/13/02	871367.92	233130.98	14.84	9.84	34.84	22.5	E504	ND	U	0.0022	0.01	12.37	4.29	5.31	442	64	1.0
36MW1011B	09/13/02	871367.92	233130.98	14.84	9.84	34.84	22.5	E504	ND	U	0.0022	0.01	14.07	3.96	6.27	338	65	0.8
36MW1011B	12/05/02	871367.92	233130.98	14.84	9.84	34.84	22.5	E504	ND	U	0.0022	0.01	11.27	2.08	5.25	428	70	2.3
36MW1011B	03/24/03	871367.92	233130.98	14.84	9.84	34.84	22.5	E504	ND	U	0.004	0.01	11.03	1.33	5.10	-28	71	0.1
36MW1012A	06/12/02	871823.75	234297.74	-106.06	-111.06	38.04	146.6	E504	ND	U	0.0022	0.01	12.39	3.23	6.32	259	66	8.2
36MW1012A	09/12/02	871823.75	234297.74	-106.06	-111.06	38.04	146.6	E504	ND	U	0.0022	0.01	13.16	3.89	6.31	54	67	6.6
36MW1012A	12/12/02	871823.75	234297.74	-106.06	-111.06	38.04	146.6	E504	ND	U	0.0022	0.01	10.52	5.17	6.56	386	70	7.5
36MW1012A	03/14/03	871823.75	234297.74	-106.06	-111.06	38.04	146.6	E504	ND	U	0.004	0.01	10.63	6.60	6.19	190	75	20
36MW1012B	06/12/02	871825.21	234304.08	-34.8	-39.8	38.1	75.4	E504	0.04		0.0022	0.01	11.63	9.93	5.80	301	84	1.6
36MW1012B	09/12/02	871825.21	234304.08	-34.8	-39.8	38.1	75.4	E504	0.04		0.0022	0.01	13.42	10.23	5.93	107	70	6.2
36MW1012B	11/12/02	871825.21	234304.08	-34.8	-39.8	38.1	75.4	E504	0.023		0.0022	0.01	11.52	11.06	6.05	440	71	3.0
36MW1012B	11/25/02	871825.21	234304.08	-34.8	-39.8	38.1	75.4	E504	0.019		0.0022	0.01	12.17	10.30	5.95	433	67	6.5
36MW1012B	12/12/02	871825.21	234304.08	-34.8	-39.8	38.1	75.4	E504	0.02		0.0022	0.01	10.14	11.27	6.21	431	65	7.0
36MW1012B	01/27/03	871825.21	234304.08	-34.8	-39.8	38.1	75.4	E504	0.021		0.0022	0.01	9.97	10.84	6.08	416	72	4.7
36MW1012B	03/14/03	871825.21	234304.08	-34.8	-39.8	38.1	75.4	E504	0.028		0.004	0.01	9.63	10.62	5.78	250	84	5.1
36MW1012C	06/12/02	871825.34	234303.76	20.5	15.5	38.1	20.1	E504	ND	U	0.0022	0.01	13.81	10.22	5.97	305	58	0.6
36MW1012C	09/12/02	871825.34	234303.76	20.5	15.5	38.1	20.1	E504	ND	U	0.0022	0.01	13.10	9.51	5.87	106	56	1.4
36MW1012C	12/12/02	871825.34	234303.76	20.5	15.5	38.1	20.1	E504	ND	U	0.0022	0.01	10.94	9.92	6.11	439	51	1.0
36MW1012C	03/14/03	871825.34	234303.76	20.5	15.5	38.1	20.1	E504	ND	U	0.004	0.01	9.99	10.07	5.78	251	54	0.5
36MW1013A	06/10/02	872713.25	234163.98	-107.89	-112.89	56.91	167.3	E504	ND	U	0.0022	0.01	12.44	7.52	6.36	132	73	2.3
36MW1013A	09/12/02	872713.25	234163.98	-107.89	-112.89	56.91	167.3	E504	ND	U	0.0022	0.01	12.68	7.77	6.31	181	73	2.3
36MW1013A	12/10/02	872713.25	234163.98	-107.89	-112.89	56.91	167.3	E504	ND	U	0.0022	0.01	10.22	7.77	6.43	319	74	5.7
36MW1013A	03/17/03	872713.25	234163.98	-107.89	-112.89	56.91	167.3	E504	ND	U	0.004	0.01	12.22	6.00	6.45	385	72	2.5
36MW1013B	06/10/02	872713.42	234164.28	-67.69	-72.69	56.91	127.1	E504	ND	U	0.0022	0.01	13.02	5.74	6.27	122	70	6.5

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36MW1013B	09/12/02	872713.42	234164.28	-67.69	-72.69	56.91	127.1	E504	ND	U	0.0022	0.01	13.14	6.04	6.21	180	71	5.0
36MW1013B	12/10/02	872713.42	234164.28	-67.69	-72.69	56.91	127.1	E504	ND	U	0.0022	0.01	10.20	5.56	6.42	309	71	5.9
36MW1013B	03/17/03	872713.42	234164.28	-67.69	-72.69	56.91	127.1	E504	ND	U	0.004	0.01	11.85	0.81	6.49	299	79	5.0
36MW1013C	06/10/02	872713.35	234155.06	27.38	22.38	57.38	32.5	E504	ND	U	0.0022	0.01	13.05	6.99	5.35	69	70	0.1
36MW1013C	09/12/02	872713.35	234155.06	27.38	22.38	57.38	32.5	E504	ND	U	0.0022	0.01	13.26	7.28	5.28	206	70	0.6
36MW1013C	12/04/02	872713.35	234155.06	27.38	22.38	57.38	32.5	E504	ND	U	0.0022	0.01	11.05	7.13	5.58	314	74	1.5
36MW1013C	03/17/03	872713.35	234155.06	27.38	22.38	57.38	32.5	E504	ND	U	0.004	0.01	13.15	7.32	5.53	361	68	0.7
36MW1013D	06/10/02	872701.76	234167.48	-166.78	-171.78	57.45	226.73	E504	ND	U	0.0022	0.01	11.94	0.24	8.61	-203	251	20
36MW1013D	09/13/02	872701.76	234167.48	-166.78	-171.78	57.45	226.73	E504	ND	U	0.0022	0.01	12.92	0.27	8.60	-187	248	13
36MW1013D	12/04/02	872701.76	234167.48	-166.78	-171.78	57.45	226.73	E504	ND	U	0.0022	0.01	10.05	0.37	9.00	-169	253	7.9
36MW1013D	03/17/03	872701.76	234167.48	-166.78	-171.78	57.45	226.73	E504	ND	U	0.004	0.01	12.32	0.55	8.66	187	246	11
36MW1013E	06/10/02	872701.76	234167.93	-131.72	-136.72	57.45	191.67	E504	ND	U	0.0022	0.01	11.73	0.21	7.11	-83	98	21
36MW1013E	09/13/02	872701.76	234167.93	-131.72	-136.72	57.45	191.67	E504	ND	U	0.0022	0.01	12.19	0.32	6.97	-95	98	9.6
36MW1013E	12/04/02	872701.76	234167.93	-131.72	-136.72	57.45	191.67	E504	ND	U	0.0022	0.01	10.21	0.46	7.07	-55	101	9.3
36MW1013E	03/17/03	872701.76	234167.93	-131.72	-136.72	57.45	191.67	E504	ND	U	0.004	0.01	11.28	0.31	6.84	-43	99	5.3
36MW1014A	06/12/02	871830.02	234611.39	-57.13	-62.13	36.37	96	E504	ND	U	0.0022	0.01	11.89	9.19	5.55	329	108	7.8
36MW1014A	09/19/02	871830.02	234611.39	-57.13	-62.13	36.37	96	E504	ND	U	0.0022	0.01	13.02	8.99	6.51	375	110	6.6
36MW1014A	11/06/02	871830.02	234611.39	-57.13	-62.13	36.37	96	E504	ND	U	0.0022	0.01	11.59	9.02	5.58	265	116	5.9
36MW1014A	11/25/02	871830.02	234611.39	-57.13	-62.13	36.37	96	E504	ND	U	0.0022	0.01	12.83	8.72	5.58	441	104	4.0
36MW1014A	12/06/02	871830.02	234611.39	-57.13	-62.13	36.37	96	E504	ND	U	0.0022	0.01	10.23	8.73	5.69	391	95	4.1
36MW1014A	01/22/03	871830.02	234611.39	-57.13	-62.13	36.37	96	E504	ND	U	0.0022	0.01	7.49	8.79	5.70	368	77	4.8
36MW1014A	03/21/03	871830.02	234611.39	-57.13	-62.13	36.37	96	E504	ND	U	0.004	0.01	10.71	8.50	5.69	409	73	3.8
36MW1014B	06/12/02	871829.09	234607.26	18.06	13.06	36.16	20.6	E504	0.01		0.0022	0.01	13.92	9.18	5.60	315	100	0.6
36MW1014B	09/19/02	871829.09	234607.26	18.06	13.06	36.16	20.6	E504	0.013		0.0022	0.01	14.28	8.79	6.50	366	112	0.1
36MW1014B	11/06/02	871829.09	234607.26	18.06	13.06	36.16	20.6	E504	0.012		0.0022	0.01	12.23	9.50	5.73	255	108	0.6
36MW1014B	11/25/02	871829.09	234607.26	18.06	13.06	36.16	20.6	E504	0.008	J	0.0022	0.01	12.30	8.88	5.67	440	103	0
36MW1014B	12/06/02	871829.09	234607.26	18.06	13.06	36.16	20.6	E504	0.008	J	0.0022	0.01	10.40	8.89	5.80	374	103	0.3
36MW1014B	01/22/03	871829.09	234607.26	18.06	13.06	36.16	20.6	E504	0.037		0.0022	0.01	9.15	9.20	5.77	375	113	0
36MW1014B	03/21/03	871829.09	234607.26	18.06	13.06	36.16	20.6	E504	0.12		0.004	0.01	12.03	8.54	5.83	385	90	0
36MW1035	06/24/02	871823.28	239981.74	-73.27	-78.27	114.23	190	E504	ND	U	0.0022	0.01	15.68	4.48	4.69	351	67	1.9
36MW1035	09/17/02	871823.28	239981.74	-73.27	-78.27	114.23	190	E504	ND	U	0.0022	0.01	14.62	5.05	5.46	199	63	2.3
36MW1035	12/11/02	871823.28	239981.74	-73.27	-78.27	114.23	190	E504	ND	U	0.0022	0.01	12.66	4.68	5.41	263	65	0.5
36MW1035	03/28/03	871823.28	239981.74	-73.27	-78.27	114.23	190	E504	ND	U	0.004	0.01	14.96	5.60	5.49	199	65	4.1
36MW1036A	06/12/02	872114.21	238792.81	-150.03	-154.98	107.97	260.48	E504	0.012		0.0022	0.01	12.59	5.20	6.54	-7	91	4.2
36MW1036A	09/18/02	872114.21	238792.81	-150.03	-154.98	107.97	260.48	E504	0.009	J	0.0022	0.01	12.64	4.91	6.27	92	94	2.8
36MW1036A	12/03/02	872114.21	238792.81	-150.03	-154.98	107.97	260.48	E504	0.007	J	0.0022	0.01	10.45	4.65	6.37	316	93	3.9
36MW1036A	03/20/03	872114.21	238792.81	-150.03	-154.98	107.97	260.48	E504	0.008	J	0.004	0.01	11.66	4.66	6.24	100	95	4.3
36MW1036B	06/12/02	872104.5	238790	-111.05	-116.05	107.85	221.4	E504	0.183		0.0022	0.01	12.66	5.97	5.42	176	59	1.6
36MW1036B	09/18/02	872104.5	238790	-111.05	-116.05	107.85	221.4	E504	0.059		0.0022	0.01	13.04	7.19	5.12	182	56	2.5
36MW1036B	12/03/02	872104.5	238790	-111.05	-116.05	107.85	221.4	E504	0.039		0.0022	0.01	10.54	7.69	5.29	444	59	0.6
36MW1036B	03/20/03	872104.5	238790	-111.05	-116.05	107.85	221.4	E504	0.045		0.004	0.01	11.61	7.15	5.20	289	62	2.0
36MW1036C	06/12/02	872114.6	238793.08	-62.18	-67.13	107.97	172.63	E504	0.035		0.0022	0.01	12.89	1.73	5.91	102	68	3.2
36MW1036C	09/18/02	872114.6	238793.08	-62.18	-67.13	107.97	172.63	E504	0.023		0.0022	0.01	13.26	2.23	5.77	113	69	3.1

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36MW1036C	12/03/02	872114.6	238793.08	-62.18	-67.13	107.97	172.63	E504	0.026		0.0022	0.01	10.96	2.37	5.96	359	70	1.8
36MW1036C	03/20/03	872114.6	238793.08	-62.18	-67.13	107.97	172.63	E504	0.031		0.004	0.01	11.89	1.96	5.89	154	71	1.6
36MW1038A	06/12/02	872357.38	235573.02	-142.94	-147.84	96.76	242.15	E504	0.046		0.0022	0.01	12.01	0.79	6.46	-65	88	8.4
36MW1038A	09/19/02	872357.38	235573.02	-142.94	-147.84	96.76	242.15	E504	0.042		0.0022	0.01	12.67	0.90	6.25	27	84	4.7
36MW1038A	12/04/02	872357.38	235573.02	-142.94	-147.84	96.76	242.15	E504	0.043		0.0022	0.01	10.03	1.03	6.44	16	84	2.4
36MW1038A	03/14/03	872357.38	235573.02	-142.94	-147.84	96.76	242.15	E504	0.043		0.004	0.01	10.53	0.95	6.32	110	83	6.8
36MW1038B	06/12/02	872349.57	235566.69	-102.15	-106.95	96.95	201.5	E504	15.8		0.22	1	12.49	3.91	5.70	128	82	5.8
36MW1038B	09/19/02	872349.57	235566.69	-102.15	-106.95	96.95	201.5	E504	17.7		0.22	1	13.18	2.92	5.54	118	87	2.3
36MW1038B	12/04/02	872349.57	235566.69	-102.15	-106.95	96.95	201.5	E504	22.9		0.22	1	10.84	2.60	5.79	165	92	0.2
36MW1038B	03/14/03	872349.57	235566.69	-102.15	-106.95	96.95	201.5	E504	16.8		0.4	1	10.61	2.29	5.79	284	91	0.2
36MW1038C	06/12/02	872363.05	235578.12	7.45	2.65	96.55	91.5	E504	0.02		0.0022	0.01	13.30	8.89	5.79	139	67	2.4
36MW1038C	09/19/02	872363.05	235578.12	7.45	2.65	96.55	91.5	E504	0.012		0.0022	0.01	13.45	9.04	5.68	153	68	2.0
36MW1038C	12/04/02	872363.05	235578.12	7.45	2.65	96.55	91.5	E504	0.016		0.0022	0.01	11.23	9.26	5.83	221	69	0.1
36MW1038C	03/14/03	872363.05	235578.12	7.45	2.65	96.55	91.5	E504	0.01		0.004	0.01	11.79	9.26	5.89	317	68	0.9
36MW1039A	06/28/02	872097.18	236725.69	-147.04	-151.99	101.43	250.95	E504	ND	U	0.0022	0.01	13.17	1.51	6.61	43	72	29
36MW1039A	09/20/02	872097.18	236725.69	-147.04	-151.99	101.43	250.95	E504	ND	U	0.0022	0.01	12.93	1.28	6.49	-25	75	26
36MW1039A	12/03/02	872097.18	236725.69	-147.04	-151.99	101.43	250.95	E504	ND	U	0.0022	0.01	10.08	1.08	6.73	-71	78	23
36MW1039A	03/20/03	872097.18	236725.69	-147.04	-151.99	101.43	250.95	E504	ND	U	0.004	0.01	11.57	2.09	6.47	-23	76	13
36MW1039B	06/27/02	872099.58	236714.86	-87.45	-92.45	101.55	191.5	E504	0.149		0.0022	0.01	14.40	6.41	5.78	251	78	30
36MW1039B	09/20/02	872099.58	236714.86	-87.45	-92.45	101.55	191.5	E504	0.068		0.0022	0.01	12.30	7.85	5.63	213	69	13
36MW1039B	12/03/02	872099.58	236714.86	-87.45	-92.45	101.55	191.5	E504	0.102		0.0022	0.01	10.54	7.48	5.79	199	72	9.7
36MW1039B	03/20/03	872099.58	236714.86	-87.45	-92.45	101.55	191.5	E504	0.074		0.004	0.01	11.42	9.30	5.68	235	72	8.7
36MW1039C	06/28/02	872096.9	236725.68	-37.53	-42.48	101.43	141.44	E504	0.3		0.0044	0.02	14.01	10.71	5.90	141	87	135
36MW1039C	09/20/02	872096.9	236725.68	-37.53	-42.48	101.43	141.44	E504	0.203		0.0022	0.01	13.26	6.05	5.89	158	82	18
36MW1039C	12/03/02	872096.9	236725.68	-37.53	-42.48	101.43	141.44	E504	0.216		0.0022	0.01	10.36	5.07	5.92	54	82	9.7
36MW1039C	03/20/03	872096.9	236725.68	-37.53	-42.48	101.43	141.44	E504	0.183		0.004	0.01	11.49	7.66	5.78	123	81	3.3
36MW1040A	06/19/02	872945.2	235647.79	-149.18	-153.98	64.54	216.12	E504	0.953		0.011	0.05	12.31	2.03	6.13	120	103	2.8
36MW1040A	09/20/02	872945.2	235647.79	-149.18	-153.98	64.54	216.12	E504	0.865		0.011	0.05	12.41	2.51	6.16	94	111	5.8
36MW1040A	12/03/02	872945.2	235647.79	-149.18	-153.98	64.54	216.12	E504	1.06		0.011	0.05	9.61	2.27	6.42	290	113	2.6
36MW1040A	03/21/03	872945.2	235647.79	-149.18	-153.98	64.54	216.12	E504	0.957		0.02	0.05	10.89	2.29	6.35	332	116	3.7
36MW1040B	06/19/02	872953.29	235646.76	-63.99	-68.82	64.49	130.9	E504	ND	U	0.0022	0.01	12.82	0.38	6.63	-91	105	0.8
36MW1040B	09/20/02	872953.29	235646.76	-63.99	-68.82	64.49	130.9	E504	ND	U	0.0022	0.01	12.78	0.55	6.56	-109	105	3.4
36MW1040B	12/03/02	872953.29	235646.76	-63.99	-68.82	64.49	130.9	E504	ND	U	0.0022	0.01	9.69	0.28	7.02	-20	107	1.6
36MW1040B	03/21/03	872953.29	235646.76	-63.99	-68.82	64.49	130.9	E504	ND	U	0.004	0.01	11.58	0.33	6.85	-60	109	2.3
36MW1041A	06/14/02	872658.51	235745.02	-125.22	-130.02	93.88	221.5	E504	14.8		0.22	1	11.62	2.21	5.91	145	96	5.6
36MW1041A	09/16/02	872658.51	235745.02	-125.22	-130.02	93.88	221.5	E504	12.7		0.22	1	13.72	2.06	5.86	228	96	3.1
36MW1041A	12/03/02	872658.51	235745.02	-125.22	-130.02	93.88	221.5	E504	13.5		0.22	1	10.40	2.30	5.83	444	102	2.7
36MW1041A	03/14/03	872658.51	235745.02	-125.22	-130.02	93.88	221.5	E504	10.9		0.2	0.5	10.67	2.60	5.99	257	99	1.4
36MW1041B	06/14/02	872650.21	235744.77	-55.75	-60.65	93.95	152.15	E504	2.49		0.044	0.2	11.76	1.05	6.19	35	95	1.6
36MW1041B	09/16/02	872650.21	235744.77	-55.75	-60.65	93.95	152.15	E504	1.93		0.022	0.1	14.32	1.23	6.12	199	92	1.9
36MW1041B	12/03/02	872650.21	235744.77	-55.75	-60.65	93.95	152.15	E504	2.22		0.022	0.1	9.78	1.25	6.06	411	98	2.3
36MW1041B	03/14/03	872650.21	235744.77	-55.75	-60.65	93.95	152.15	E504	2.05		0.04	0.1	11.38	1.21	6.26	111	94	2.5
36MW1041C	06/14/02	872650.07	235744.69	-35.85	-40.75	93.95	132.25	E504	1.08		0.022	0.1	12.10	2.32	6.16	114	92	16

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36MW1041C	09/16/02	872650.07	235744.69	-35.85	-40.75	93.95	132.25	E504	0.815		0.011	0.05	14.02	2.62	6.10	246	89	7.6
36MW1041C	12/03/02	872650.07	235744.69	-35.85	-40.75	93.95	132.25	E504	1.01		0.011	0.05	10.12	2.95	6.05	419	95	13
36MW1041C	03/14/03	872650.07	235744.69	-35.85	-40.75	93.95	132.25	E504	1.06		0.02	0.05	10.85	3.62	6.20	225	92	10
36MW1042A	06/21/02	872473.36	239060.4	-111.5	-116.45	108.38	222.36	E504	ND	U	0.0022	0.01	14.83	9.61	5.67	149	68	1.9
36MW1042A	09/20/02	872473.36	239060.4	-111.5	-116.45	108.38	222.36	E504	ND	U	0.0022	0.01	13.78	9.49	5.92	147	69	4.3
36MW1042A	12/09/02	872473.36	239060.4	-111.5	-116.45	108.38	222.36	E504	ND	U	0.0022	0.01	9.71	10.03	5.95	237	69	0.8
36MW1042A	04/21/03	872473.36	239060.4	-111.5	-116.45	108.38	222.36	E504	ND	U	0.004	0.01	12.50	9.74	5.61	89	69	0.2
36MW1042B	06/19/02	872476.96	239066.98	-70.45	-75.25	108.65	181.5	E504	ND	U	0.0022	0.01	13.10	7.81	5.59	164	70	1.0
36MW1042B	09/20/02	872476.96	239066.98	-70.45	-75.25	108.65	181.5	E504	ND	U	0.0022	0.01	14.06	7.49	5.67	131	69	2.2
36MW1042B	12/09/02	872476.96	239066.98	-70.45	-75.25	108.65	181.5	E504	ND	U	0.0022	0.01	10.71	8.59	5.76	209	68	1.0
36MW1042B	04/21/03	872476.96	239066.98	-70.45	-75.25	108.65	181.5	E504	ND	U	0.004	0.01	12.89	7.86	5.31	140	68	0.9
36MW1043A	05/14/02	872398.73	237499.64	-145.4	-150.19	104.58	82.5	E504	ND	U	0.0022	0.01	12.74	11.78	7.35	179	78	1.7
36MW1043A	05/14/02	872398.73	237499.64	-145.4	-150.19	104.58	92.5	E504	ND	U	0.0022	0.01	12.12	12.86	6.54	168	68	3.2
36MW1043A	05/14/02	872398.73	237499.64	-145.4	-150.19	104.58	102.5	E504	ND	U	0.0022	0.01	11.40	12.76	6.25	193	81	2.0
36MW1043A	05/14/02	872398.73	237499.64	-145.4	-150.19	104.58	112.5	E504	ND	U	0.0022	0.01	11.73	11.89	6.15	183	83	3.6
36MW1043A	05/14/02	872398.73	237499.64	-145.4	-150.19	104.58	122.5	E504	ND	U	0.0022	0.01	16.97	10.33	6.16	147	98	151
36MW1043A	05/15/02	872398.73	237499.64	-145.4	-150.19	104.58	132.5	E504	0.026		0.0022	0.01	11.24	10.33	6.16	147	98	151
36MW1043A	05/15/02	872398.73	237499.64	-145.4	-150.19	104.58	142.5	E504	0.138		0.0022	0.01	11.14	6.65	6.16	98	72	2.7
36MW1043A	05/15/02	872398.73	237499.64	-145.4	-150.19	104.58	152.5	E504	0.035		0.0022	0.01	11.51	5.04	6.22	35	62	7.9
36MW1043A	05/15/02	872398.73	237499.64	-145.4	-150.19	104.58	162.5	E504	3.28		0.044	0.2	12.08	6.24	5.88	47	95	3.3
36MW1043A	05/15/02	872398.73	237499.64	-145.4	-150.19	104.58	172.5	E504	0.695		0.011	0.05	11.33	7.22	5.91	111	76	2.3
36MW1043A	05/15/02	872398.73	237499.64	-145.4	-150.19	104.58	182.5	E504	0.304		0.0044	0.02	12.15	9.71	6.00	137	85	1.5
36MW1043A	05/16/02	872398.73	237499.64	-145.4	-150.19	104.58	192.5	E504	0.304		0.0044	0.02	12.21	8.63	6.99	178	78	11
36MW1043A	05/16/02	872398.73	237499.64	-145.4	-150.19	104.58	202.5	E504	0.155		0.0022	0.01	12.40	11.70	6.32	161	83	3.2
36MW1043A	05/20/02	872398.73	237499.64	-145.4	-150.19	104.58	212.5	E504	0.076		0.0022	0.01	12.15	7.61	7.18	4	84	4.3
36MW1043A	05/21/02	872398.73	237499.64	-145.4	-150.19	104.58	222.5	E504	0.192		0.0022	0.01	12.44	6.24	6.37	-266	90	6.5
36MW1043A	05/21/02	872398.73	237499.64	-145.4	-150.19	104.58	232.5	E504	0.685		0.011	0.05	12.18	5.48	6.24	-86	85	0.6
36MW1043A	05/22/02	872398.73	237499.64	-145.4	-150.19	104.58	253.5	E504	4.91		0.088	0.4	11.84	5.67	6.23	45	103	1.0
36MW1043A	05/23/02	872398.73	237499.64	-145.4	-150.19	104.58	262.5	E504	4.15		0.088	0.4	11.55	3.35	6.18	205	100	2.8
36MW1043A	09/23/02	872398.73	237499.64	-145.4	-150.19	104.58	252.38	E504	1.58		0.022	0.1	14.38	2.43	5.99	-123	127	12
36MW1043A	12/10/02	872398.73	237499.64	-145.4	-150.19	104.58	252.38	E504	1.12		0.022	0.1	10.73	0.80	6.60	-83	179	1.9
36MW1043A	03/24/03	872398.73	237499.64	-145.4	-150.19	104.58	252.38	E504	1.19		0.02	0.05	11.43	0.86	6.42	-138	157	4.3
36MW1043B	09/30/02	872398.69	237499.47	-55.26	-60.38	104.58	162.4	E504	0.851		0.011	0.05	12.50	0.34	5.74	-75	97	4.0
36MW1043B	12/10/02	872398.69	237499.47	-55.26	-60.38	104.58	162.4	E504	0.747		0.011	0.05	11.67	0.66	5.94	-6	93	0.6
36MW1043B	03/28/03	872398.69	237499.47	-55.26	-60.38	104.58	162.4	E504	1.36		0.04	0.1	13.61	0.60	5.72	-5	93	0.2
36PZ1001	06/18/02	871589.35	233707.29	31.9	26.9	33.9	4.5	E504	ND	U	0.0022	0.01	19.77	7.50	6.93	88	96	184
36PZ1001	09/17/02	871589.35	233707.29	31.9	26.9	33.9	4.5	E504	ND	U	0.0022	0.01	21.20	6.42	6.92	89	93	158
36PZ1001	11/08/02	871589.35	233707.29	31.9	26.9	33.9	4.5	E504	ND	U	0.0022	0.01	NA	NA	NA	NA	NA	NA
36PZ1001	11/25/02	871589.35	233707.29	31.9	26.9	33.9	4.5	E504	ND	U	0.0022	0.01	13.48	11.31	5.32	386	3	578
36PZ1001	12/16/02	871589.35	233707.29	31.9	26.9	33.9	4.5	E504	ND	U	0.0022	0.01	NA	NA	NA	NA	NA	NA
36PZ1001	04/21/03	871589.35	233707.29	31.9	26.9	33.9	4.5	E504	ND	U	0.004	0.01	NA	NA	NA	NA	NA	NA
36PZ1002A	06/18/02	871663.96	234085.61	-91.26	-96.26	33.74	127.5	E504	ND	U	0.0022	0.01	11.37	7.36	6.37	121	70	80
36PZ1002A	09/11/02	871663.96	234085.61	-91.26	-96.26	33.74	127.5	E504	ND	U	0.0022	0.01	11.58	7.18	7.11	284	75	45

Table 3-3
FS-1 Groundwater Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth (ft)	Method	EDB µg/L (MMCL = 0.02 µg/L)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
									Result	Qual	DL	RL						
36PZ1002A	11/12/02	871663.96	234085.61	-91.26	-96.26	33.74	127.5	E504	ND	U	0.0022	0.01	11.01	7.88	6.34	377	74	34
36PZ1002A	11/27/02	871663.96	234085.61	-91.26	-96.26	33.74	127.5	E504	ND	U	0.0022	0.01	10.18	10.89	6.44	181	70	6.4
36PZ1002A	12/16/02	871663.96	234085.61	-91.26	-96.26	33.74	127.5	E504	ND	U	0.0022	0.01	9.56	7.20	6.51	477	75	37
36PZ1002A	04/21/03	871663.96	234085.61	-91.26	-96.26	33.74	127.5	E504	ND	U	0.004	0.01	11.08	7.76	6.41	419	70	0.8
36PZ1002B	06/18/02	871663.91	234085.78	31.74	26.74	33.74	4.5	E504	ND	U	0.0022	0.01	14.38	1.33	5.73	110	78	93
36PZ1002B	09/11/02	871663.91	234085.78	31.74	26.74	33.74	4.5	E504	ND	U	0.0022	0.01	16.75	0.59	6.74	225	76	19
36PZ1002B	11/12/02	871663.91	234085.78	31.74	26.74	33.74	4.5	E504	ND	U	0.0022	0.01	11.74	1.56	5.98	371	90	12
36PZ1002B	11/27/02	871663.91	234085.78	31.74	26.74	33.74	4.5	E504	ND	U	0.0022	0.01	9.80	4.76	5.90	213	95	8.0
36PZ1002B	12/16/02	871663.91	234085.78	31.74	26.74	33.74	4.5	E504	ND	U	0.0022	0.01	7.28	3.64	5.93	505	117	35
36PZ1002B	04/21/03	871663.91	234085.78	31.74	26.74	33.74	4.5	E504	ND	U	0.004	0.01	11.18	7.78	6.38	420	70	23
36PZ1003	06/21/02	871920.21	234669.64	34.72	29.72	36.72	4.5	E504	ND	U	0.0022	0.01	12.82	10.88	5.61	163	53	6.7
36PZ1003	09/13/02	871920.21	234669.64	34.72	29.72	36.72	4.5	E504	ND	U	0.0022	0.01	13.87	10.71	6.88	273	55	20
36PZ1003	11/12/02	871920.21	234669.64	34.72	29.72	36.72	4.5	E504	ND	U	0.0022	0.01	10.01	12.14	6.02	437	55	12
36PZ1003	11/27/02	871920.21	234669.64	34.72	29.72	36.72	4.5	E504	ND	U	0.0022	0.01	9.40	11.97	6.04	418	62	20
36PZ1003	12/18/02	871920.21	234669.64	34.72	29.72	36.72	4.5	E504	ND	U	0.0022	0.01	8.50	10.97	6.06	427	55	13
36PZ1003	01/27/03	871920.21	234669.64	34.72	29.72	36.72	4.5	E504	0.116		0.0022	0.01	8.48	7.45	6.16	203	80	49
36PZ1003	03/26/03	871920.21	234669.64	34.72	29.72	36.72	4.5	E504	ND	U	0.004	0.01	9.19	10.14	6.18	432	68	3.5
36PZ1010	06/13/02	872068.53	234895.62	24.37	19.37	49.37	27.5	E504	ND	U	0.0022	0.01	9.81	2.19	5.94	153	104	8.3
36PZ1010	09/17/02	872068.53	234895.62	24.37	19.37	49.37	27.5	E504	ND	U	0.0022	0.01	11.17	1.93	5.70	12	94	13
36PZ1010	12/12/02	872068.53	234895.62	24.37	19.37	49.37	27.5	E504	ND	U	0.0022	0.01	10.61	3.07	5.81	54	101	4.2
36PZ1010	03/26/03	872068.53	234895.62	24.37	19.37	49.37	27.5	E504	ND	U	0.004	0.01	9.55	0.45	5.73	219	95	5.4

Data Source: AFCEE, 16 July 2003, MMR-AFCEE Data Warehouse

Note:

The accuracy of the field parameter instrument readings is as follows: temperature (+/- 0.15%), specific conductance (+/- 0.5% of reading plus 1 µS/cm), dissolved oxygen (for instrument readings 0-20 mg/L, +/- 0.2 mg/L and for instrument readings 20-50 mg/L, +/- 0.6 mg/L), pH (+/- 0.2 units), oxidation-reduction potential (+/- 20 mV), turbidity (the greater of +/- 5% of reading or +/- 2 NTU).

Key:

°C = degrees Celsius
DL = method detection limit
DO = dissolved oxygen
ft = feet
ft msl = ft mean sea level
J = estimated concentration

mg/L = milligrams per liter
MMCL = Massachusetts maximum contaminant level, bold values indicate exceedance
mV = millivolts
NA = not available
ND = nondetect
NTU = nephelometric turbidity units

Qual = validation qualifier
RL = reporting limit
U = not detected above the method detection limit
µg/L = micrograms per liter
µS/cm = microsiemens per centimeter

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	1.06	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	1.06	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.98	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.954	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.954	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	1.38	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.8	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.8	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	1.5	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.312	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.312	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.665	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1-DICHLOROETHENE	N1	ND	U	0.452	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1-DICHLOROETHENE	N1	ND	U	0.452	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1-DICHLOROETHENE	N1	ND	U	0.226	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,1-DICHLOROETHENE	N1	ND	U	1.14	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.866	4	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.866	4	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.705	10	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	3.52	4	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	3.52	4	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	4.06	10	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.986	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.986	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	1.84	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.61	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.61	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.305	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.965	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.764	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.764	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	1.18	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.616	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.616	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	1.2	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.458	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.458	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.229	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.87	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.76	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.76	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.38	1	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	1.22	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ALUMINUM	N1	ND	U	30.9	458	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ALUMINUM	N1	ND	U	82	200	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ALUMINUM	N1	ND	U	28	200	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ALUMINUM	N1	ND	U	28	200	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C204.2	TOTAL	ANTIMONY	N1	ND	UJ	2.5	6	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.5	6	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.5	6	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.9	6	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ARSENIC	N1	5.5	J	3.6	10	µg/L	50	MCL	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ARSENIC	N1	5.1	J	3.6	10	µg/L	50	MCL	No
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ARSENIC	N1	7	J	3.6	10	µg/L	50	MCL	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ARSENIC	N1	4.7	J	2.6	10	µg/L	50	MCL	No
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	BARIUM	N1	23.9	J	0.5	200	µg/L	2,000	MCL	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	BARIUM	N1	24.2	J	0.5	200	µg/L	2,000	MCL	No
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	BARIUM	N1	43.3	J	0.5	200	µg/L	2,000	MCL	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	BARIUM	N1	25.6	J	0.4	200	µg/L	2,000	MCL	No
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BENZENE	N1	ND	U	0.432	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BENZENE	N1	ND	U	0.432	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BENZENE	N1	ND	U	0.655	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.16	4	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.2	4	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.478	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.478	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	1.09	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.988	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.988	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.655	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOFORM	N1	ND	U	1.73	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOFORM	N1	ND	U	1.73	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOFORM	N1	ND	U	1.18	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.844	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.844	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	BROMOMETHANE	N1	ND	U	1.18	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CADMIUM	N1	ND	U	0.43	5	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CADMIUM	N1	ND	U	0.3	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CALCIUM	N1	3130	J	12	5000	µg/L	NA		
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CALCIUM	N1	3170	J	12	5000	µg/L	NA		
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CALCIUM	N1	2900	J	12	5000	µg/L	NA		
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CALCIUM	N1	2640	J	26	5000	µg/L	NA		
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	1.24	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	1.24	2	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.925	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.396	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.396	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.79	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROETHANE	N1	ND	U	1.29	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROETHANE	N1	ND	U	1.29	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROETHANE	N1	ND	U	1.44	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROFORM	N1	1.62	J	0.672	2	µg/L	5	ORSG	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROFORM	N1	1.66	J	0.672	2	µg/L	5	ORSG	No
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROFORM	N1	ND	U	0.336	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROFORM	N1	ND	U	0.525	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.972	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.972	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.895	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CHROMIUM, TOTAL	N1	2.2	J	1.4	10	µg/L	100	MCL	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CHROMIUM, TOTAL	N1	ND	U	1.4	10	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CHROMIUM, TOTAL	N1	ND	U	1.4	10	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	CHROMIUM, TOTAL	N1	1.4	J	1	10	µg/L	100	MCL	No
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.694	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.694	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.89	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.524	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.524	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.82	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	COBALT	N1	ND	U	2.2	50	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	COBALT	N1	ND	U	2.2	50	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	COBALT	N1	3.4	J	2.2	50	µg/L	NA		
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	COBALT	N1	0.95	J	0.8	50	µg/L	NA		
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	COPPER	N1	ND	U	2.7	35.5	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	COPPER	N1	ND	U	1.4	25	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.732	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.732	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	1.46	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	ETHYLBENZENE	N1	71.1		0.356	2	µg/L	700	MCL	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	ETHYLBENZENE	N1	64.9		0.356	2	µg/L	700	MCL	No
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	ETHYLBENZENE	N1	64.6		0.178	1	µg/L	700	MCL	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	ETHYLBENZENE	N1	181		0.965	5	µg/L	700	MCL	No
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	IRON	N1	11800		35	100	µg/L	300	NSDWR	Yes
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	IRON	N1	11800		35	100	µg/L	300	NSDWR	Yes
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	IRON	N1	11900		35	100	µg/L	300	NSDWR	Yes
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	IRON	N1	12800		18	100	µg/L	300	NSDWR	Yes
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C239.2	TOTAL	LEAD	N1	213		8.5	15	µg/L	15	Action Level	Yes

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	LEAD	N1	241		1.5	3	µg/L	15	Action Level	Yes
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	LEAD	N1	164		1.5	3	µg/L	15	Action Level	Yes
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	LEAD	N1	168		1.6	3	µg/L	15	Action Level	Yes
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	179		1.05	4	µg/L	10,000 ¹	MCL	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	112		1.05	4	µg/L	10,000 ¹	MCL	No
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	81.6		0.525	2	µg/L	10,000 ¹	MCL	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	341		1.52	10	µg/L	10,000 ¹	MCL	No
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	MAGNESIUM	N1	885	J	22	5000	µg/L	NA		
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	MAGNESIUM	N1	962	J	74	5000	µg/L	NA		
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	MAGNESIUM	N1	865	J	22	5000	µg/L	NA		
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	MAGNESIUM	N1	957	J	30	5000	µg/L	NA		
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	MANGANESE	N1	375		0.6	15	µg/L	50	NSDWR	Yes
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	MANGANESE	N1	383		0.6	15	µg/L	50	NSDWR	Yes
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	MANGANESE	N1	370		0.6	15	µg/L	50	NSDWR	Yes
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	MANGANESE	N1	375		0.7	15	µg/L	50	NSDWR	Yes
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.858	4	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.858	4	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.935	10	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	NICKEL	N1	4.1	J	1.8	40	µg/L	100	ORSG	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	NICKEL	N1	ND	U	1.8	40	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	NICKEL	N1	2.2	J	1.8	40	µg/L	100	ORSG	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	NICKEL	N1	1.6	J	0.9	40	µg/L	100	ORSG	No
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	43		0.284	2	µg/L	10,000 ¹	MCL	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	37.9		0.284	2	µg/L	10,000 ¹	MCL	No
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	19.6		0.142	1	µg/L	10,000 ¹	MCL	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	155		0.94	5	µg/L	10,000 ¹	MCL	No
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	POTASSIUM	N1	1070	J	160	5000	µg/L	NA		
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	POTASSIUM	N1	1060	J	160	5000	µg/L	NA		
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	POTASSIUM	N1	1190	J	160	5000	µg/L	NA		
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	POTASSIUM	N1	998	J	80	5000	µg/L	NA		
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C270.2	TOTAL	SELENIUM	N1	ND	U	1.1	5	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C270.2	TOTAL	SELENIUM	N1	ND	U	1.1	5	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SELENIUM	N1	ND	U	4.6	5	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SELENIUM	N1	ND	U	2.4	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SILVER	N1	ND	U	1.4	10	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SODIUM	N1	4800	J	790	5000	µg/L	NA		
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SODIUM	N1	4870	J	790	5000	µg/L	NA		
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SODIUM	N1	4930	J	790	5000	µg/L	NA		
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	SODIUM	N1	4070	J	730	5000	µg/L	NA		
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	STYRENE	N1	ND	U	0.312	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	STYRENE	N1	ND	U	0.312	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	STYRENE	N1	ND	U	0.805	5	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
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Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.84	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.84	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.99	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.292	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.292	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	0.2	J	0.146	1	µg/L	5	MCL	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.685	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TOLUENE	N1	40.8		0.37	2	µg/L	1,000	MCL	No
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TOLUENE	N1	9.08		0.37	2	µg/L	1,000	MCL	No
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TOLUENE	N1	3.47		0.185	1	µg/L	1,000	MCL	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TOLUENE	N1	108		1.36	5	µg/L	1,000	MCL	No
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.542	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.542	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.985	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.54	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.54	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	1.14	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.276	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.276	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	1.02	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	VANADIUM	N1	ND	U	3.4	50	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	VANADIUM	N1	ND	U	2.5	50	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	VANADIUM	N1	ND	U	3.4	50	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	VANADIUM	N1	ND	U	1.2	50	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.826	2	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.826	2	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	1.02	5	µg/L			
36MW0002	6/25/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ZINC	N1	ND	U	27.3	118	µg/L			
36MW0002	9/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ZINC	N1	ND	U	38.1	80	µg/L			
36MW0002	12/16/2002	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ZINC	N1	26.6		0.72	20	µg/L	5,000	NSDWR	No
36MW0002	3/20/2003	870832	241852	59.29	49.29	105.75	51.46	C200.7	TOTAL	ZINC	N1	ND	U	9	26	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	1.06	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.196	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.954	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.276	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.8	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.299	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.312	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.133	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.226	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.452	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.226	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.227	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.866	4	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.141	2	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	3.52	4	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	0.812	2	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.986	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.368	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.305	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.61	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.305	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.193	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.764	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.236	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.616	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.239	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.229	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.458	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.229	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.174	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.38	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.76	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.38	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.244	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ALUMINUM	N1	ND	U	29.3	458	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ALUMINUM	N1	ND	U	82	200	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ALUMINUM	N1	ND	U	31.4	225	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ALUMINUM	N1	ND	U	40.9	200	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C204.2	TOTAL	ANTIMONY	N1	ND	UJ	2.5	6	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C204.2	TOTAL	ANTIMONY	N1	4.2	J	2.5	6	µg/L	6	MCL	No
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.5	6	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.9	6	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ARSENIC	N1	4.8	J	3.6	10	µg/L	50	MCL	No
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ARSENIC	N1	4.5	J	3.6	10	µg/L	50	MCL	No

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
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Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ARSENIC	N1	6.8	J	3.6	10	µg/L	50	MCL	No
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ARSENIC	N1	8.9	J	2.6	10	µg/L	50	MCL	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	BARIIUM	N1	21.2	J	0.5	200	µg/L	2,000	MCL	No
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	BARIIUM	N1	16.8	J	0.5	200	µg/L	2,000	MCL	No
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	BARIIUM	N1	19.1	J	0.5	200	µg/L	2,000	MCL	No
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	BARIIUM	N1	33.9	J	0.4	200	µg/L	2,000	MCL	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BENZENE	N1	ND	U	0.432	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BENZENE	N1	ND	U	0.131	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.12	4	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.478	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.218	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.988	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.131	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOFORM	N1	ND	U	1.73	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOFORM	N1	ND	U	0.236	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.844	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.236	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CADMIUM	N1	ND	U	0.3	5	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CALCIUM	N1	2590	J	12	5000	µg/L	NA		
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CALCIUM	N1	2070	J	12	5000	µg/L	NA		
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CALCIUM	N1	2290	J	12	5000	µg/L	NA		
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CALCIUM	N1	2630	J	26	5000	µg/L	NA		
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	1.24	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.185	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.396	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.158	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROETHANE	N1	ND	U	1.29	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.288	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROFORM	N1	3.03		0.336	1	µg/L	5	ORSG	No

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Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROFORM	N1	1.44	J	0.672	2	µg/L	5	ORSG	No
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROFORM	N1	ND	U	0.336	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROFORM	N1	1.7		0.105	1	µg/L	5	ORSG	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.972	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.179	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CHROMIUM, TOTAL	N1	2.1	J	1.4	10	µg/L	100	MCL	No
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CHROMIUM, TOTAL	N1	ND	U	1.4	10	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CHROMIUM, TOTAL	N1	ND	U	1.4	10	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	CHROMIUM, TOTAL	N1	1	J	1	10	µg/L	100	MCL	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.694	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.178	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.524	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.164	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	COBALT	N1	4.8	J	2.2	50	µg/L	NA		
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	COBALT	N1	2.4	J	2.2	50	µg/L	NA		
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	COBALT	N1	2.7	J	2.2	50	µg/L	NA		
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	COBALT	N1	5.8	J	0.8	50	µg/L	NA		
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	COPPER	N1	1.8	J	1.4	25	µg/L	1,300	Action Level	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.732	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.293	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	ETHYLBENZENE	N1	60.4		0.178	1	µg/L	700	MCL	No
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	ETHYLBENZENE	N1	55.2		0.356	2	µg/L	700	MCL	No
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	ETHYLBENZENE	N1	58.7		0.178	1	µg/L	700	MCL	No
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	ETHYLBENZENE	N1	44.4		0.193	1	µg/L	700	MCL	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	IRON	N1	8000		35	100	µg/L	300	NSDWR	Yes
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	IRON	N1	8380		35	100	µg/L	300	NSDWR	Yes
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	IRON	N1	8110		35	100	µg/L	300	NSDWR	Yes
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	IRON	N1	6710		18	100	µg/L	300	NSDWR	Yes
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C239.2	TOTAL	LEAD	N1	476		85	150	µg/L	15	Action Level	Yes
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	LEAD	N1	290		1.5	3	µg/L	15	Action Level	Yes
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	LEAD	N1	207		1.5	3	µg/L	15	Action Level	Yes
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	LEAD	N1	289		1.6	3	µg/L	15	Action Level	Yes
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	175		0.525	2	µg/L	10,000 ¹	MCL	No
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	123		1.05	4	µg/L	10,000 ¹	MCL	No
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	76		0.525	2	µg/L	10,000 ¹	MCL	No
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	80.9		0.305	2	µg/L	10,000 ¹	MCL	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	MAGNESIUM	N1	1400	J	22	5000	µg/L	NA		
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	MAGNESIUM	N1	1420	J	74	5000	µg/L	NA		
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	MAGNESIUM	N1	1510	J	22	5000	µg/L	NA		
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	MAGNESIUM	N1	1250	J	30	5000	µg/L			

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Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	MANGANESE	N1	511		0.6	15	µg/L	50	NSDWR	Yes
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	MANGANESE	N1	330		0.6	15	µg/L	50	NSDWR	Yes
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	MANGANESE	N1	336		0.6	15	µg/L	50	NSDWR	Yes
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	MANGANESE	N1	300		0.7	15	µg/L	50	NSDWR	Yes
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.858	4	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.187	2	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	NICKEL	N1	7.1	J	1.8	40	µg/L	100	ORSG	No
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	NICKEL	N1	ND	U	1.8	40	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	NICKEL	N1	ND	U	1.8	40	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	NICKEL	N1	7.5	J	0.9	40	µg/L	100	ORSG	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	46.9		0.142	1	µg/L	10,000 ¹	MCL	No
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	39.2		0.284	2	µg/L	10,000 ¹	MCL	No
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	28.8		0.142	1	µg/L	10,000 ¹	MCL	No
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	24.8		0.188	1	µg/L	10,000 ¹	MCL	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	POTASSIUM	N1	995	J	160	5000	µg/L	NA		
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	POTASSIUM	N1	893	J	160	5000	µg/L	NA		
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	POTASSIUM	N1	1000	J	160	5000	µg/L	NA		
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	POTASSIUM	N1	1200	J	80	5000	µg/L	NA		
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C270.2	TOTAL	SELENIUM	N1	ND	U	1.1	5	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C270.2	TOTAL	SELENIUM	N1	ND	U	1.1	5	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SELENIUM	N1	ND	U	4.6	5	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SELENIUM	N1	ND	U	2.4	5	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SILVER	N1	ND	U	1.4	10	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SODIUM	N1	6030		790	5000	µg/L	NA		
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SODIUM	N1	4750	J	790	5000	µg/L	NA		
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SODIUM	N1	3640	J	790	5000	µg/L	NA		
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	SODIUM	N1	4550	J	730	5000	µg/L	NA		
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	STYRENE	N1	ND	U	0.312	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	STYRENE	N1	ND	U	0.161	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.84	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.198	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.146	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.292	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.146	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.137	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TOLUENE	N1	1.48		0.185	1	µg/L	1,000	MCL	No
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TOLUENE	N1	ND	U	0.37	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TOLUENE	N1	ND	U	0.185	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TOLUENE	N1	0.94	J	0.271	1	µg/L	1,000	MCL	No
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.542	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.197	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.54	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.227	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.276	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.203	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	VANADIUM	N1	ND	U	3.4	50	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	VANADIUM	N1	ND	U	2.5	50	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	VANADIUM	N1	ND	U	3.4	50	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	VANADIUM	N1	ND	U	1.2	50	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.826	2	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.204	1	µg/L			
36MW0007	6/25/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ZINC	N1	ND	U	19.2	118	µg/L			
36MW0007	9/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ZINC	N1	ND	U	11.7	80	µg/L			
36MW0007	12/16/2002	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ZINC	N1	ND	U	3	20	µg/L			
36MW0007	3/20/2003	870793	241934	61.2	51.2	107.2	51	C200.7	TOTAL	ZINC	N1	ND	U	7.5	26	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.196	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.276	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.299	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.133	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.226	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.226	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.226	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.227	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.141	2	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	0.812	2	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.368	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.305	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.305	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.305	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.193	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.236	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.239	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.229	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.229	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.229	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,3-DICHLOROBENZENE	N1	ND	U	0.174	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.38	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.38	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.38	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	1,4-DICHLOROBENZENE	N1	ND	U	0.244	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ALUMINUM	N1	ND	U	33.1	458	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ALUMINUM	N1	ND	U	82	200	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ALUMINUM	N1	ND	U	35.2	225	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ALUMINUM	N1	ND	U	28	200	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C204.2	TOTAL	ANTIMONY	N1	ND	UJ	2.5	6	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C204.2	TOTAL	ANTIMONY	N1	3.7	J	2.5	6	µg/L	6	MCL	No
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.5	6	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.9	6	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ARSENIC	N1	ND	UJ	3.6	10	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ARSENIC	N1	ND	U	3.6	10	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ARSENIC	N1	ND	U	3.6	10	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ARSENIC	N1	ND	U	2.6	10	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	BARIUM	N1	9.5	J	0.5	200	µg/L	2,000	MCL	No
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	BARIUM	N1	9.3	J	0.5	200	µg/L	2,000	MCL	No
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	BARIUM	N1	10.3	J	0.5	200	µg/L	2,000	MCL	No
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	BARIUM	N1	12.9	J	0.4	200	µg/L	2,000	MCL	No
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BENZENE	N1	ND	U	0.131	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.218	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.131	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOFORM	N1	ND	U	0.236	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.236	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CADMIUM	N1	ND	U	0.3	5	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CALCIUM	N1	1470	J	12	5000	µg/L	NA		
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CALCIUM	N1	1260	J	12	5000	µg/L	NA		
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CALCIUM	N1	1400	J	12	5000	µg/L	NA		
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CALCIUM	N1	1310	J	26	5000	µg/L	NA		
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.185	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.158	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.288	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROFORM	N1	ND	U	0.336	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROFORM	N1	ND	U	0.336	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROFORM	N1	ND	U	0.336	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROFORM	N1	0.48	J	0.105	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.179	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CHROMIUM, TOTAL	N1	5.8	J	1.4	10	µg/L	100	MCL	No
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CHROMIUM, TOTAL	N1	ND	U	1.4	10	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CHROMIUM, TOTAL	N1	1.8	J	1.4	10	µg/L	100	MCL	No
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	CHROMIUM, TOTAL	N1	ND	U	1	10	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation (ft msl)	Screen Bottom Elevation (ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.178	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.164	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	COBALT	N1	ND	U	2.2	50	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	COBALT	N1	ND	U	2.2	50	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	COBALT	N1	ND	U	2.2	50	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	COBALT	N1	ND	U	0.8	50	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	COPPER	N1	ND	U	1.4	25	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.293	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	ETHYLBENZENE	N1	ND	U	0.178	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	ETHYLBENZENE	N1	ND	U	0.178	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	ETHYLBENZENE	N1	ND	U	0.178	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	ETHYLBENZENE	N1	ND	U	0.193	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	IRON	N1	ND	U	69.1	178	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	IRON	N1	ND	U	45.4	263	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	IRON	N1	ND	U	44.6	625	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	IRON	N1	ND	U	18	100	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C239.2	TOTAL	LEAD	N1	12.9		1.7	3	µg/L	15	Action Level	No
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	LEAD	N1	ND	U	3.5	14.5	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	LEAD	N1	ND	U	1.5	3	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	LEAD	N1	ND	UJ	1.6	3	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	ND	U	0.525	2	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	ND	U	0.525	2	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	ND	U	0.525	2	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	ND	U	0.305	2	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	MAGNESIUM	N1	1560	J	22	5000	µg/L	NA		
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	MAGNESIUM	N1	1540	J	24	5000	µg/L	NA		
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	MAGNESIUM	N1	1710	J	22	5000	µg/L	NA		
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	MAGNESIUM	N1	1740	J	30	5000	µg/L	NA		
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	MANGANESE	N1	144		0.6	15	µg/L	50	NSDWR	Yes
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	MANGANESE	N1	124		0.6	15	µg/L	50	NSDWR	Yes
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	MANGANESE	N1	128		0.6	15	µg/L	50	NSDWR	Yes
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	MANGANESE	N1	132		0.7	15	µg/L	50	NSDWR	Yes
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.187	2	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	NICKEL	N1	3	J	1.8	40	µg/L	100	ORSG	No
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	NICKEL	N1	ND	U	1.8	40	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	NICKEL	N1	ND	U	1.8	40	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	NICKEL	N1	1.2	J	0.9	40	µg/L	100	ORSG	No
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	ND	U	0.142	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	ND	U	0.142	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	ND	U	0.142	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	ND	U	0.188	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	POTASSIUM	N1	608	J	160	5000	µg/L	NA		
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	POTASSIUM	N1	606	J	160	5000	µg/L	NA		
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	POTASSIUM	N1	623	J	160	5000	µg/L	NA		
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	POTASSIUM	N1	659	J	80	5000	µg/L	NA		
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C270.2	TOTAL	SELENIUM	N1	ND	U	1.1	5	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C270.2	TOTAL	SELENIUM	N1	ND	U	1.1	5	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SELENIUM	N1	ND	U	4.6	5	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SELENIUM	N1	ND	U	2.4	5	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SILVER	N1	ND	U	1.4	10	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SODIUM	N1	4160	J	790	5000	µg/L	NA		
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SODIUM	N1	4190	J	790	5000	µg/L	NA		
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SODIUM	N1	4530	J	790	5000	µg/L	NA		
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	SODIUM	N1	4980	J	730	5000	µg/L	NA		
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	STYRENE	N1	ND	U	0.161	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.198	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.146	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.146	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.146	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.137	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TOLUENE	N1	ND	U	0.185	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TOLUENE	N1	ND	U	0.185	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TOLUENE	N1	ND	U	0.185	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TOLUENE	N1	ND	U	0.271	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.197	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.227	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.203	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	VANADIUM	N1	ND	U	3.4	50	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	VANADIUM	N1	ND	U	2.5	50	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	VANADIUM	N1	ND	U	3.4	50	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	VANADIUM	N1	ND	U	1.2	50	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.204	1	µg/L			
36MW0010A	6/25/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ZINC	N1	ND	U	6	118	µg/L			
36MW0010A	9/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ZINC	N1	ND	U	17.2	80	µg/L			
36MW0010A	12/16/2002	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ZINC	N1	ND	U	3.8	20	µg/L			
36MW0010A	3/20/2003	871045	241336	38.1	33.1	108.1	72.5	C200.7	TOTAL	ZINC	N1	ND	U	4.2	26	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.528	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,1-TRICHLOROETHANE	N1	ND	U	0.196	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.477	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,2,2-TETRACHLOROETHANE	N1	ND	U	0.276	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.4	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1,2-TRICHLOROETHANE	N1	ND	U	0.299	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.156	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1-DICHLOROETHANE	N1	ND	U	0.133	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1-DICHLOROETHENE	N1	ND	U	0.226	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1-DICHLOROETHENE	N1	ND	U	0.226	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1-DICHLOROETHENE	N1	ND	U	0.226	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,1-DICHLOROETHENE	N1	ND	U	0.227	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.433	2	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2,4-TRICHLOROBENZENE	N1	ND	U	0.141	2	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	1.76	2	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DIBROMO-3-CHLOROPROPANE	N1	ND	U	0.812	2	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.493	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	N1	ND	U	0.368	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROBENZENE	N1	ND	U	0.305	1	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROENZENE	N1	ND	U	0.305	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROENZENE	N1	ND	U	0.305	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROENZENE	N1	ND	U	0.193	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.382	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROETHANE	N1	ND	U	0.236	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.308	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,2-DICHLOROPROPANE	N1	ND	U	0.239	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,3-DICHLOROENZENE	N1	ND	U	0.229	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,3-DICHLOROENZENE	N1	ND	U	0.229	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,3-DICHLOROENZENE	N1	ND	U	0.229	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,3-DICHLOROENZENE	N1	ND	U	0.174	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,4-DICHLOROENZENE	N1	ND	U	0.38	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,4-DICHLOROENZENE	N1	ND	U	0.38	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,4-DICHLOROENZENE	N1	ND	U	0.38	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	1,4-DICHLOROENZENE	N1	ND	U	0.244	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ALUMINUM	N1	ND	U	73.1	458	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ALUMINUM	N1	ND	U	82	200	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ALUMINUM	N1	263		28	200	µg/L	50 -200	NSDWR	Yes
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ALUMINUM	N1	264		28	200	µg/L	50 -200	NSDWR	Yes
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C204.2	TOTAL	ANTIMONY	N1	ND	UJ	2.5	6	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.5	6	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.5	6	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C204.2	TOTAL	ANTIMONY	N1	ND	U	2.9	6	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ARSENIC	N1	ND	UJ	3.6	10	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ARSENIC	N1	ND	U	3.6	10	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ARSENIC	N1	ND	U	3.6	10	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ARSENIC	N1	ND	U	2.6	10	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	BARIUM	N1	2.9	J	0.5	200	µg/L	2,000	MCL	No
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	BARIUM	N1	ND	U	3.3	200	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	BARIUM	N1	3.3	J	0.5	200	µg/L	2,000	MCL	No
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	BARIUM	N1	ND	U	3.7	200	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BENZENE	N1	ND	U	0.216	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BENZENE	N1	ND	U	0.131	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	BERYLLIUM	N1	ND	U	0.1	4	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.239	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOCHLOROMETHANE	N1	ND	U	0.218	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.494	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMODICHLOROMETHANE	N1	ND	U	0.131	1	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOFORM	N1	ND	U	0.867	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOFORM	N1	ND	U	0.236	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.422	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	BROMOMETHANE	N1	ND	U	0.236	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CADMIUM	N1	ND	U	0.4	5	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CADMIUM	N1	ND	U	0.3	5	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CALCIUM	N1	3100	J	12	5000	µg/L	NA		
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CALCIUM	N1	2940	J	12	5000	µg/L	NA		
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CALCIUM	N1	3140	J	12	5000	µg/L	NA		
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CALCIUM	N1	2900	J	26	5000	µg/L	NA		
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.618	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CARBON TETRACHLORIDE	N1	ND	U	0.185	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.198	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROBENZENE	N1	ND	U	0.158	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.646	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROETHANE	N1	ND	U	0.288	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROFORM	N1	0.38	J	0.336	1	µg/L	5	ORSG	No
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROFORM	N1	ND	U	0.336	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROFORM	N1	ND	U	0.336	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROFORM	N1	0.32	J	0.105	1	µg/L	5	ORSG	No
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.486	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	CHLOROMETHANE	N1	ND	U	0.179	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CHROMIUM, TOTAL	N1	7.5	J	1.4	10	µg/L	100	MCL	No
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CHROMIUM, TOTAL	N1	ND	U	5.7	11	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CHROMIUM, TOTAL	N1	4.9	J	1.4	10	µg/L	100	MCL	No
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	CHROMIUM, TOTAL	N1	2.9	J	1	10	µg/L	100	MCL	No
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.347	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	cis-1,2-DICHLOROETHYLENE	N1	ND	U	0.178	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.262	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	cis-1,3-DICHLOROPROPENE	N1	ND	U	0.164	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	COBALT	N1	ND	U	2.2	50	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	COBALT	N1	3.3	J	2.2	50	µg/L	NA		
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	COBALT	N1	ND	U	2.2	50	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
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Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	COBALT	N1	0.96	J	0.8	50	µg/L	NA		
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	COPPER	N1	ND	U	2.5	25	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	COPPER	N1	ND	U	1.4	25	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.366	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	DIBROMOCHLOROMETHANE	N1	ND	U	0.293	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	ETHYLBENZENE	N1	ND	U	0.178	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	ETHYLBENZENE	N1	ND	U	0.178	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	ETHYLBENZENE	N1	ND	U	0.178	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	ETHYLBENZENE	N1	ND	U	0.193	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	IRON	N1	ND	U	166	178	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	IRON	N1	ND	U	155	263	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	IRON	N1	353		35	100	µg/L	300	NSDWR	Yes
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	IRON	N1	462		18	100	µg/L	300	NSDWR	Yes
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C239.2	TOTAL	LEAD	N1	6.5		1.7	3	µg/L	15	Action Level	No
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	LEAD	N1	ND	U	2	14.5	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	LEAD	N1	ND	U	1.5	3	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	LEAD	N1	ND	UJ	1.6	3	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	ND	U	0.525	2	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	ND	U	0.525	2	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	ND	U	0.525	2	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	M,P-XYLENE (SUM OF ISOMERS)	N1	ND	U	0.305	2	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	MAGNESIUM	N1	1250	J	22	5000	µg/L	NA		
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	MAGNESIUM	N1	1240	J	74	5000	µg/L	NA		
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	MAGNESIUM	N1	1340	J	22	5000	µg/L	NA		
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	MAGNESIUM	N1	1290	J	30	5000	µg/L	NA		
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	MANGANESE	N1	44.8		0.6	15	µg/L	50	NSDWR	No
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	MANGANESE	N1	34.9		0.6	15	µg/L	50	NSDWR	No
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	MANGANESE	N1	33.1		0.6	15	µg/L	50	NSDWR	No
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	MANGANESE	N1	31		0.7	15	µg/L	50	NSDWR	No
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C245.1	TOTAL	MERCURY	N1	ND	U	0.1	0.2	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.429	2	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	METHYLENE CHLORIDE	N1	ND	U	0.187	2	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	NICKEL	N1	6.3	J	1.8	40	µg/L	100	ORSG	No
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	NICKEL	N1	ND	U	5.7	40	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	NICKEL	N1	3.7	J	1.8	40	µg/L	100	ORSG	No
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	NICKEL	N1	2.3	J	0.9	40	µg/L	100	ORSG	No
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	ND	U	0.142	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	ND	U	0.142	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	ND	U	0.142	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	O-XYLENE (1,2-DIMETHYLBENZENE)	N1	ND	U	0.188	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	POTASSIUM	N1	630	J	160	5000	µg/L	NA		
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	POTASSIUM	N1	624	J	160	5000	µg/L	NA		

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
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Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	POTASSIUM	N1	730	J	160	5000	µg/L	NA		
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	POTASSIUM	N1	693	J	80	5000	µg/L	NA		
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C270.2	TOTAL	SELENIUM	N1	ND	U	1.1	5	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C270.2	TOTAL	SELENIUM	N1	ND	U	1.1	5	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SELENIUM	N1	ND	U	4.6	5	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SELENIUM	N1	ND	U	2.4	5	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SILVER	N1	ND	U	2.4	10	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SILVER	N1	ND	U	1.4	10	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SODIUM	N1	6930		790	5000	µg/L	NA		
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SODIUM	N1	6970		790	5000	µg/L	NA		
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SODIUM	N1	7160		790	5000	µg/L	NA		
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	SODIUM	N1	7220		730	5000	µg/L	NA		
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	STYRENE	N1	ND	U	0.156	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	STYRENE	N1	ND	U	0.161	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.42	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	tert-BUTYL METHYL ETHER	N1	ND	U	0.198	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.146	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.146	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.146	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TETRACHLOROETHYLENE(PCE)	N1	ND	U	0.137	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C279.2	TOTAL	THALLIUM	N1	ND	UJ	1.4	2	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TOLUENE	N1	ND	U	0.185	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TOLUENE	N1	ND	U	0.185	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TOLUENE	N1	ND	U	0.185	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TOLUENE	N1	ND	U	0.271	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.271	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	trans-1,2-DICHLOROETHENE	N1	ND	U	0.197	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.27	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	trans-1,3-DICHLOROPROPENE	N1	ND	U	0.227	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.138	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	TRICHLOROETHYLENE (TCE)	N1	ND	U	0.203	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	VANADIUM	N1	ND	U	3.4	50	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	VANADIUM	N1	ND	U	2.5	50	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	VANADIUM	N1	ND	U	3.4	50	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	VANADIUM	N1	ND	U	1.2	50	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			

Table 3-4
FS-1 Source Area Groundwater Analytical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Date Sampled	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Screen Top Elevation ft msl)	Screen Bottom Elevation ft msl)	Ground Surface Elevation (ft msl)	Depth	Test	Prep	Analyte	Type	Result	Qual	DL	RL	Units	Drink Water Benchmark		
																	Benchmark	Type	Exceed?
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.413	1	µg/L			
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	SW8260	SW5030	VINYL CHLORIDE	N1	ND	U	0.204	1	µg/L			
36MW0015	6/25/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ZINC	N1	ND	U	7.6	118	µg/L			
36MW0015	9/17/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ZINC	N1	ND	U	15.3	80	µg/L			
36MW0015	12/16/2002	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ZINC	N1	6.7	J	0.72	20	µg/L	5,000	NSDWR	No
36MW0015	3/20/2003	870759	241917	-19.25	-24.25	106.6	128.35	C200.7	TOTAL	ZINC	N1	ND	U	8.2	26	µg/L			

Data Source: AFCEE, 16 July 2003, MMR-AFCEE Data Warehouse

Notes:

Action Level = treatment technique that requires water systems to control corrosiveness of their water

Bold type = benchmark exceedance

Key:

DL = detection limit

ft = feet

ft msl = feet mean sea level

J = estimated concentration

MCL = U.S. Environmental Protection Agency Safe Drinking Water Act maximum contaminant level

MMCL = Massachusetts Drinking Water maximum contaminant level

ND = nondetect

NSDWR = National Secondary Drinking Water Regulations

ORSG =Massachusetts Office of Research and Standards Guideline

Qual = validation qualifier

RL = reporting limit

U = not detected above the detection limit

µg/L = micrograms per liter

Table 3-5
Quashnet River and Bogs Surface Water Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Location	Sample Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Method	EDB µg/L (method E504.1)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
					Result	Qual	DL	RL						
36SW0001	06/27/02	871885.6	232357.3	E504	ND	U	0.0022	0.01	21.86	16.94	7.46	206	79	3.4
36SW0001	09/19/02	871885.6	232357.3	E504	ND	U	0.0022	0.01	15.73	14.73	7.11	226	74	0.8
36SW0001	10/18/02	871885.6	232357.3	E504	ND	U	0.0022	0.01	10.93	9.29	6.38	196	86	1.1
36SW0001	10/30/02	871885.6	232357.3	E504	ND	U	0.0022	0.01	9.86	14.76	6.02	360	82	0.5
36SW0001	11/14/02	871885.6	232357.3	E504	ND	U	0.0022	0.01	8.92	9.73	6.47	233	81	1.6
36SW0001	11/27/02	871885.6	232357.3	E504	ND	U	0.0022	0.01	6.98	12.55	6.68	282	75	1.6
36SW0001	12/16/02	871885.6	232357.3	E504	ND	U	0.0022	0.01	8.21	11.86	6.55	251	77	0.9
36SW0001	01/02/03	871885.6	232357.3	E504	ND	U	0.0022	0.01	5.81	11.45	6.39	230	79	9.8
36SW0001	01/17/03	871885.6	232357.3	E504	ND	U	0.0022	0.01	4.71	12.79	6.88	367	83	0.8
36SW0001	03/25/03	871885.6	232357.3	E504	ND	U	0.004	0.01	8.57	7.35	6.34	459	80	1.0
36SW0001	04/24/03	871885.6	232357.3	E504	ND	U	0.004	0.01	13.52	13.33	7.30	338	80	1.0
36SW0003	06/27/02	871262.04	233475.6	E504	ND	U	0.0022	0.01	24.47	15.30	7.67	165	95	0.8
36SW0003	09/19/02	871262.04	233475.6	E504	ND	U	0.0022	0.01	15.56	14.97	6.67	177	71	0.4
36SW0003	10/18/02	871262.04	233475.6	E504	0.005	J	0.0022	0.01	12.72	13.75	6.26	332	77	0.4
36SW0003	10/30/02	871262.04	233475.6	E504	ND	U	0.0022	0.01	9.96	12.59	6.19	389	98	0.3
36SW0003	11/14/02	871262.04	233475.6	E504	ND	U	0.0022	0.01	10.47	12.64	6.27	252	75	1.3
36SW0003	11/27/02	871262.04	233475.6	E504	ND	U	0.0022	0.01	6.92	12.51	6.41	322	83	2.3
36SW0003	12/16/02	871262.04	233475.6	E504	ND	U	0.0022	0.01	8.21	8.37	6.40	301	80	0.7
36SW0003	01/02/03	871262.04	233475.6	E504	ND	U	0.0022	0.01	6.49	12.45	6.34	314	76	3.6
36SW0003	01/17/03	871262.04	233475.6	E504	ND	U	0.0022	0.01	3.46	15.19	6.27	343	81	0.8
36SW0003	03/25/03	871262.04	233475.6	E504	ND	U	0.004	0.01	7.81	8.04	6.03	418	93	9.2
36SW0003	04/24/03	871262.04	233475.6	E504	ND	U	0.004	0.01	15.50	13.12	6.62	262	92	42
36SW0007	06/27/02	872201.8	234617.6	E504	ND	U	0.0022	0.01	22.61	12.18	6.37	213	60	1.4
36SW0007	09/19/02	872201.8	234617.6	E504	ND	U	0.0022	0.01	16.60	10.50	6.30	231	47	1.2
36SW0007	10/18/02	872201.8	234617.6	E504	ND	U	0.0022	0.01	12.45	11.11	5.87	395	54	4.9
36SW0007	10/30/02	872201.8	234617.6	E504	ND	U	0.0022	0.01	9.20	9.25	5.41	471	49	1.0
36SW0007	11/14/02	872201.8	234617.6	E504	ND	U	0.0022	0.01	9.93	10.53	5.55	315	52	5.8
36SW0007	11/27/02	872201.8	234617.6	E504	ND	U	0.0022	0.01	8.09	8.83	5.14	374	47	1.1
36SW0007	12/16/02	872201.8	234617.6	E504	ND	U	0.0022	0.01	7.42	12.11	5.79	426	50	3.0
36SW0007	01/02/03	872201.8	234617.6	E504	ND	U	0.0022	0.01	6.83	12.01	5.85	383	60	1.8
36SW0007	01/17/03	872201.8	234617.6	E504	ND	U	0.0022	0.01	5.47	10.46	5.16	422	53	1.2
36SW0007	03/25/03	872201.8	234617.6	E504	ND	U	0.004	0.01	9.20	10.90	5.71	442	54	3.6
36SW0007	04/24/03	872201.8	234617.6	E504	ND	U	0.004	0.01	12.57	10.16	5.62	432	56	1.5
36SW0010	05/02/02	871840.22	234672.19	NS	NS	NS	NS	NS	9.89	10.42	6.11	526	60	1.1
36SW0010	05/09/02	871840.22	234672.19	NS	NS	NS	NS	NS	11.35	11.49	6.18	295	63	0.4
36SW0010	05/16/02	871840.22	234672.19	NS	NS	NS	NS	NS	14.14	13.46	6.50	198	54	0.4
36SW0010	05/23/02	871840.22	234672.19	NS	NS	NS	NS	NS	14.63	13.21	6.14	186	54	0.7
36SW0010	05/30/02	871840.22	234672.19	NS	NS	NS	NS	NS	12.82	11.71	5.84	368	54	1.4
36SW0010	06/06/02	871840.22	234672.19	NS	NS	NS	NS	NS	12.91	9.77	5.97	209	54	0.8

Table 3-5
Quashnet River and Bogs Surface Water Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
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Location	Sample Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Method	EDB µg/L (method E504.1)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
					Result	Qual	DL	RL						
36SW0010	06/13/02	871840.22	234672.19	NS	NS	NS	NS	NS	11.45	10.80	5.90	190	55	0.2
36SW0010	06/20/02	871840.22	234672.19	NS	NS	NS	NS	NS	13.97	12.32	6.43	234	57	0.2
36SW0010	06/27/02	871840.22	234672.19	NS	NS	NS	NS	NS	14.86	10.91	6.13	287	57	0.2
36SW0010	06/27/02	871840.22	234672.19	E504	ND	U	0.0022	0.01	16.82	12.57	6.56	219	68	0.2
36SW0010	07/03/02	871840.22	234672.19	NS	NS	NS	NS	NS	15.44	11.51	5.86	140	61	0.4
36SW0010	07/11/02	871840.22	234672.19	NS	NS	NS	NS	NS	13.65	11.22	5.97	297	57	0.6
36SW0010	07/18/02	871840.22	234672.19	NS	NS	NS	NS	NS	14.09	10.83	6.14	284	56	0.2
36SW0010	07/25/02	871840.22	234672.19	NS	NS	NS	NS	NS	13.14	10.48	5.93	133	55	-0.2
36SW0010	08/01/02	871840.22	234672.19	NS	NS	NS	NS	NS	15.60	11.00	6.36	216	53	0.5
36SW0010	08/08/02	871840.22	234672.19	NS	NS	NS	NS	NS	13.29	10.07	6.10	116	57	0.2
36SW0010	08/15/02	871840.22	234672.19	NS	NS	NS	NS	NS	14.24	9.12	5.95	106	55	1.9
36SW0010	08/22/02	871840.22	234672.19	NS	NS	NS	NS	NS	14.83	10.82	6.26	226	60	0.3
36SW0010	08/29/02	871840.22	234672.19	NS	NS	NS	NS	NS	12.78	8.14	6.00	99	58	5.3
36SW0010	09/05/02	871840.22	234672.19	NS	NS	NS	NS	NS	13.43	11.04	6.92	239	58	0.8
36SW0010	09/12/02	871840.22	234672.19	NS	NS	NS	NS	NS	11.50	9.74	6.03	105	54	0
36SW0010	09/19/02	871840.22	234672.19	NS	NS	NS	NS	NS	11.71	10.01	6.42	242	53	1.7
36SW0010	09/19/02	871840.22	234672.19	E504	ND	U	0.0022	0.01	15.00	12.37	6.55	213	54	1.0
36SW0010	09/26/02	871840.22	234672.19	NS	NS	NS	NS	NS	12.68	11.75	5.82	70	55	0.8
36SW0010	10/03/02	871840.22	234672.19	NS	NS	NS	NS	NS	13.66	10.10	6.23	247	54	0.3
36SW0010	10/10/02	871840.22	234672.19	NS	NS	NS	NS	NS	11.06	11.25	5.86	150	56	1.5
36SW0010	10/17/02	871840.22	234672.19	NS	NS	NS	NS	NS	10.79	11.24	5.98	386	57	0.7
36SW0010	10/18/02	871840.22	234672.19	E504	ND	U	0.0022	0.01	11.62	12.76	5.99	370	57	0.7
36SW0010	10/24/02	871840.22	234672.19	NS	NS	NS	NS	NS	9.34	11.60	5.87	387	54	0.3
36SW0010	10/30/02	871840.22	234672.19	E504	ND	U	0.0022	0.01	9.76	10.58	5.71	435	58	0.2
36SW0010	10/31/02	871840.22	234672.19	NS	NS	NS	NS	NS	9.03	11.19	6.00	463	57	0.5
36SW0010	11/07/02	871840.22	234672.19	NS	NS	NS	NS	NS	8.98	11.79	5.86	429	54	0.9
36SW0010	11/14/02	871840.22	234672.19	NS	NS	NS	NS	NS	9.40	11.21	5.79	386	57	0.9
36SW0010	11/14/02	871840.22	234672.19	E504	ND	U	0.0022	0.01	9.82	11.39	5.96	300	54	0.8
36SW0010	11/21/02	871840.22	234672.19	NS	NS	NS	NS	NS	9.77	11.95	5.85	316	53	0.3
36SW0010	11/27/02	871840.22	234672.19	NS	NS	NS	NS	NS	8.60	9.99	5.70	407	53	1.8
36SW0010	11/27/02	871840.22	234672.19	E504	ND	U	0.0022	0.01	8.33	10.14	5.83	327	51	7.3
36SW0010	12/05/02	871840.22	234672.19	NS	NS	NS	NS	NS	7.73	10.96	5.86	466	54	4.7
36SW0010	12/12/02	871840.22	234672.19	NS	NS	NS	NS	NS	8.24	10.78	5.93	512	53	1.2
36SW0010	12/16/02	871840.22	234672.19	E504	ND	U	0.0022	0.01	8.13	12.01	6.00	395	52	2.3
36SW0010	12/19/02	871840.22	234672.19	NS	NS	NS	NS	NS	7.19	11.99	6.15	445	54	0.5
36SW0010	12/26/02	871840.22	234672.19	NS	NS	NS	NS	NS	7.20	11.69	5.96	441	53	0.6
36SW0010	01/02/03	871840.22	234672.19	NS	NS	NS	NS	NS	7.32	11.32	6.07	366	57	1.6
36SW0010	01/02/03	871840.22	234672.19	E504	ND	U	0.0022	0.01	7.64	11.96	5.88	370	57	2.7
36SW0010	01/10/03	871840.22	234672.19	NS	NS	NS	NS	NS	5.23	10.80	6.24	243	56	15

Table 3-5
Quashnet River and Bogs Surface Water Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
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Location	Sample Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Method	EDB µg/L (method E504.1)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
					Result	Qual	DL	RL						
36SW0010	01/16/03	871840.22	234672.19	NS	NS	NS	NS	NS	5.00	11.01	6.05	355	59	2.0
36SW0010	01/17/03	871840.22	234672.19	E504	ND	U	0.0022	0.01	4.31	11.46	5.78	394	57	1.7
36SW0010	01/22/03	871840.22	234672.19	NS	NS	NS	NS	NS	4.64	9.85	5.60	383	60	0.8
36SW0010	03/25/03	871840.22	234672.19	E504	ND	U	0.004	0.01	8.97	11.59	5.92	426	54	2.0
36SW0010	04/24/03	871840.22	234672.19	E504	ND	U	0.004	0.01	13.00	12.57	5.71	405	54	2.3
36SW0015	06/27/02	870655.98	233577.22	E504	ND	U	0.0022	0.01	26.66	8.77	6.51	176	96	1.2
36SW0015	09/19/02	870655.98	233577.22	E504	ND	U	0.0022	0.01	18.85	10.61	6.27	212	86	1.5
36SW0015	10/18/02	870655.98	233577.22	E504	ND	U	0.0022	0.01	13.03	8.22	5.85	368	110	4.4
36SW0015	10/30/02	870655.98	233577.22	E504	ND	U	0.0022	0.01	9.90	11.21	5.65	424	100	1.6
36SW0015	11/14/02	870655.98	233577.22	E504	ND	U	0.0022	0.01	10.85	11.24	5.65	240	107	5.2
36SW0015	11/27/02	870655.98	233577.22	E504	ND	U	0.0022	0.01	8.40	11.09	5.13	373	NM	12
36SW0015	12/16/02	870655.98	233577.22	E504	ND	U	0.0022	0.01	8.50	11.28	5.74	368	102	8.3
36SW0015	01/02/03	870655.98	233577.22	E504	ND	U	0.0022	0.01	7.58	11.42	5.80	307	112	8.9
36SW0015	01/17/03	870655.98	233577.22	E504	ND	U	0.0022	0.01	3.23	8.93	5.57	382	90	2.6
36SW0015	03/25/03	870655.98	233577.22	E504	ND	U	0.004	0.01	8.35	10.81	5.90	425	91	6.5
36SW0019	05/23/02	871579.00	233070.00	E504	ND	U	0.0022	0.01	13.51	13.49	6.53	214	80	2.3
36SW0019	06/27/02	871579.00	233070.00	E504	0.01		0.0022	0.01	28.76	16.59	7.34	175	81	3.3
36SW0019	07/25/02	871579.00	233070.00	E504	0.02		0.0022	0.01	23.25	12.73	6.96	48	83	0.5
36SW0019	08/28/02	871579.00	233070.00	E504	0.037		0.0022	0.01	15.98	6.01	6.65	29	93	2.3
36SW0019	09/19/02	871579.00	233070.00	E504	0.029		0.0022	0.01	19.52	13.27	7.16	211	85	12
36SW0019	10/18/02	871579.00	233070.00	E504	0.037		0.0022	0.01	12.34	9.10	6.55	299	87	14
36SW0019	10/30/02	871579.00	233070.00	E504	0.043		0.0022	0.01	10.18	12.48	6.26	354	83	4.9
36SW0019	11/14/02	871579.00	233070.00	E504	0.034		0.0022	0.01	10.45	13.40	6.32	143	102	11
36SW0019	11/27/02	871579.00	233070.00	E504	0.022		0.0022	0.01	6.84	10.42	6.57	268	69	15
36SW0019	12/16/02	871579.00	233070.00	E504	0.03		0.0022	0.01	6.81	5.59	6.54	231	84	20
36SW0019	01/02/03	871579.00	233070.00	E504	0.023		0.0022	0.01	5.58	6.45	5.90	70	98	25
36SW0019	04/24/03	871579.00	233070.00	E504	0.04		0.004	0.01	13.16	12.00	7.21	338	80	0.3
36SW0036	06/27/02	871662.52	233742.83	E504	ND	U	0.0022	0.01	27.48	9.57	7.46	64	73	3.9
36SW0036	09/19/02	871662.52	233742.83	E504	ND	U	0.0022	0.01	19.48	5.36	6.76	157	68	21
36SW0036	10/18/02	871662.52	233742.83	E504	ND	U	0.0022	0.01	13.04	5.67	6.20	290	90	5.8
36SW0036	10/30/02	871662.52	233742.83	E504	ND	U	0.0022	0.01	9.72	9.19	6.16	380	73	3.1
36SW0036	11/14/02	871662.52	233742.83	E504	ND	U	0.0022	0.01	9.82	4.62	5.92	205	77	18
36SW0036	11/27/02	871662.52	233742.83	E504	ND	U	0.0022	0.01	6.65	8.84	6.09	321	63	3.8
36SW0036	12/16/02	871662.52	233742.83	E504	ND	U	0.0022	0.01	5.79	5.98	6.13	326	61	8.3
36SW0036	01/02/03	871662.52	233742.83	E504	ND	U	0.0022	0.01	4.26	9.66	6.08	303	65	8.2
36SW0036	01/17/03	871662.52	233742.83	E504	ND	U	0.0022	0.01	2.88	9.35	6.38	345	71	2.0
36SW0036	03/25/03	871662.52	233742.83	E504	ND	U	0.004	0.01	7.92	6.09	6.01	423	60	26
36SW0036	04/24/03	871662.52	233742.83	E504	ND	U	0.004	0.01	12.54	5.79	7.02	239	65	2.4
36SW0200	06/27/02	871316.75	233487.89	E504	ND	U	0.0022	0.01	20.58	14.05	6.89	155	93	1.4

Table 3-5
Quashnet River and Bogs Surface Water Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
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Location	Sample Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Method	EDB µg/L (method E504.1)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
					Result	Qual	DL	RL						
36SW0200	09/19/02	871316.75	233487.89	E504	ND	U	0.0022	0.01	16.71	9.75	6.64	165	82	15
36SW0200	10/18/02	871316.75	233487.89	E504	ND	U	0.0022	0.01	12.62	9.23	6.31	313	81	1.1
36SW0200	10/30/02	871316.75	233487.89	E504	ND	U	0.0022	0.01	10.39	13.71	6.04	398	74	0.7
36SW0200	11/14/02	871316.75	233487.89	E504	0.008	J	0.0022	0.01	9.07	8.91	6.22	251	64	2.0
36SW0200	11/27/02	871316.75	233487.89	E504	0.007	J	0.0022	0.01	6.84	11.91	6.38	332	68	13
36SW0200	12/16/02	871316.75	233487.89	E504	0.014		0.0022	0.01	6.77	8.48	6.30	354	70	1.1
36SW0200	01/02/03	871316.75	233487.89	E504	0.01		0.0022	0.01	4.95	11.52	6.30	328	76	4.8
36SW0200	01/17/03	871316.75	233487.89	E504	0.004	J	0.0022	0.01	3.19	13.10	6.44	349	86	1.2
36SW0200	03/25/03	871316.75	233487.89	E504	0.035		0.004	0.01	8.24	7.06	6.08	424	74	1.4
36SW0200	04/24/03	871316.75	233487.89	E504	0.029		0.004	0.01	12.57	8.80	6.73	333	71	0.4
36SW0201	06/27/02	871282.86	233611.06	E504	ND	U	0.0022	0.01	18.93	14.90	6.87	164	97	2.9
36SW0201	09/19/02	871282.86	233611.06	E504	ND	U	0.0022	0.01	20.69	13.60	6.78	173	75	4.3
36SW0201	10/18/02	871282.86	233611.06	E504	ND	U	0.0022	0.01	13.23	10.59	6.31	333	79	9.7
36SW0201	10/30/02	871282.86	233611.06	E504	ND	U	0.0022	0.01	10.40	13.19	6.26	396	72	3.1
36SW0201	11/14/02	871282.86	233611.06	E504	0.009	J	0.0022	0.01	9.39	10.34	6.27	261	75	11
36SW0201	11/27/02	871282.86	233611.06	E504	0.009	J	0.0022	0.01	7.06	12.25	6.31	338	70	4.2
36SW0201	12/16/02	871282.86	233611.06	E504	0.014		0.0022	0.01	7.01	9.01	6.27	352	72	3.5
36SW0201	01/02/03	871282.86	233611.06	E504	0.012		0.0022	0.01	5.14	9.92	6.34	326	77	5.0
36SW0201	01/17/03	871282.86	233611.06	E504	0.017		0.0022	0.01	4.43	8.82	6.15	357	76	0.8
36SW0201	03/25/03	871282.86	233611.06	E504	0.04		0.004	0.01	8.34	8.21	6.08	418	74	3.2
36SW0201	04/24/03	871282.86	233611.06	E504	0.032		0.004	0.01	12.55	9.70	6.55	328	70	1.3
36SW0221	06/27/02	871829.97	234696.83	NS	NS	NS	NS	NS	15.94	12.38	6.64	207	58	1.2
36SW0221	09/19/02	871829.97	234696.83	NS	NS	NS	NS	NS	14.90	10.80	6.49	206	75	1.4
36SW0221	10/18/02	871829.97	234696.83	E504	ND	U	0.0022	0.01	12.99	8.14	6.02	366	74	0.7
36SW0221	10/30/02	871829.97	234696.83	E504	ND	U	0.0022	0.01	10.52	8.14	5.86	422	71	2.0
36SW0221	11/14/02	871829.97	234696.83	E504	ND	U	0.0022	0.01	10.73	8.61	6.07	302	68	3.0
36SW0221	11/27/02	871829.97	234696.83	E504	ND	U	0.0022	0.01	8.41	7.74	6.01	338	63	10
36SW0221	12/16/02	871829.97	234696.83	E504	ND	U	0.0022	0.01	7.94	10.07	6.11	391	63	2.7
36SW0221	01/02/03	871829.97	234696.83	E504	ND	U	0.0022	0.01	7.63	9.81	5.99	365	69	3.3
36SW0221	01/17/03	871829.97	234696.83	E504	ND	U	0.0022	0.01	1.52	13.89	5.81	388	58	1.9
36SW0221	03/14/03	871829.97	234696.83	E504	ND	U	0.004	0.01	7.75	10.58	5.73	377	57	3.3
36SW0221	04/24/03	871829.97	234696.83	E504	ND	U	0.004	0.01	14.50	10.73	5.85	401	60	20
36SW0300	05/02/02	871788.07	234684.72	NS	NS	NS	NS	NS	10.17	9.65	6.27	511	73	0.9
36SW0300	05/09/02	871788.07	234684.72	NS	NS	NS	NS	NS	10.77	10.45	6.30	312	73	0
36SW0300	05/16/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.91	11.14	6.52	189	71	0.3
36SW0300	05/23/02	871788.07	234684.72	NS	NS	NS	NS	NS	12.10	10.95	6.32	181	72	1.2
36SW0300	05/30/02	871788.07	234684.72	NS	NS	NS	NS	NS	12.68	11.10	6.30	351	60	0.4
36SW0300	06/06/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.63	9.34	6.42	171	70	1.0
36SW0300	06/13/02	871788.07	234684.72	NS	NS	NS	NS	NS	10.94	9.60	6.10	174	71	0.4

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Quashnet River and Bogs Surface Water Ethylene Dibromide Concentrations and Water Quality Parameters,
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Location	Sample Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Method	EDB µg/L (method E504.1)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
					Result	Qual	DL	RL						
36SW0300	06/20/02	871788.07	234684.72	NS	NS	NS	NS	NS	12.35	11.24	6.67	231	68	0.3
36SW0300	06/27/02	871788.07	234684.72	NS	NS	NS	NS	NS	12.67	9.85	6.48	288	71	0.2
36SW0300	06/27/02	871788.07	234684.72	E504	ND	U	0.0022	0.01	13.94	11.49	7.07	204	75	0
36SW0300	07/03/02	871788.07	234684.72	NS	NS	NS	NS	NS	13.39	10.22	6.16	122	69	0
36SW0300	07/11/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.80	9.89	6.31	292	74	0.1
36SW0300	07/18/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.70	9.78	6.56	269	73	0.1
36SW0300	07/25/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.34	9.48	6.41	120	75	-0.6
36SW0300	08/01/02	871788.07	234684.72	NS	NS	NS	NS	NS	13.16	10.27	6.82	202	69	0.3
36SW0300	08/08/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.93	9.60	6.30	100	71	0
36SW0300	08/15/02	871788.07	234684.72	NS	NS	NS	NS	NS	12.41	8.93	6.19	90	72	0.3
36SW0300	08/22/02	871788.07	234684.72	NS	NS	NS	NS	NS	12.36	9.73	6.36	212	76	0.1
36SW0300	08/29/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.75	9.68	6.26	108	73	0.9
36SW0300	09/05/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.86	9.22	7.08	222	75	0.6
36SW0300	09/12/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.31	8.98	6.49	94	73	0
36SW0300	09/19/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.39	9.03	6.67	228	71	0.1
36SW0300	09/19/02	871788.07	234684.72	E504	ND	U	0.0022	0.01	12.88	10.42	6.58	205	69	0.2
36SW0300	09/26/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.71	10.20	6.04	56	73	0.1
36SW0300	10/03/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.67	9.38	6.62	238	73	0.1
36SW0300	10/10/02	871788.07	234684.72	NS	NS	NS	NS	NS	11.17	9.78	6.26	127	77	1.4
36SW0300	10/17/02	871788.07	234684.72	NS	NS	NS	NS	NS	10.87	10.15	6.21	375	60	0.5
36SW0300	10/18/02	871788.07	234684.72	E504	ND	U	0.0022	0.01	11.62	11.62	6.08	361	59	2.8
36SW0300	10/24/02	871788.07	234684.72	NS	NS	NS	NS	NS	9.31	10.54	5.99	400	57	0
36SW0300	10/30/02	871788.07	234684.72	E504	ND	U	0.0022	0.01	9.89	10.22	6.09	431	62	1.9
36SW0300	10/31/02	871788.07	234684.72	NS	NS	NS	NS	NS	9.06	10.32	6.12	466	62	1.7
36SW0300	11/07/02	871788.07	234684.72	NS	NS	NS	NS	NS	9.18	11.28	5.95	426	60	3.0
36SW0300	11/14/02	871788.07	234684.72	NS	NS	NS	NS	NS	9.47	10.49	5.94	375	62	0.7
36SW0300	11/14/02	871788.07	234684.72	E504	ND	U	0.0022	0.01	9.90	10.75	5.99	282	58	0.9
36SW0300	11/21/02	871788.07	234684.72	NS	NS	NS	NS	NS	9.58	10.60	5.93	299	58	0.4
36SW0300	11/27/02	871788.07	234684.72	NS	NS	NS	NS	NS	8.63	10.40	6.01	402	57	1.0
36SW0300	11/27/02	871788.07	234684.72	E504	ND	U	0.0022	0.01	8.41	9.76	6.06	273	56	8.3
36SW0300	12/05/02	871788.07	234684.72	NS	NS	NS	NS	NS	7.54	10.15	6.12	455	59	7.9
36SW0300	12/12/02	871788.07	234684.72	NS	NS	NS	NS	NS	8.21	10.53	6.32	486	58	3.3
36SW0300	12/16/02	871788.07	234684.72	NS	NS	NS	NS	NS	8.03	11.63	6.17	393	57	1.1
36SW0300	12/19/02	871788.07	234684.72	NS	NS	NS	NS	NS	7.07	12.01	6.09	443	59	1.6
36SW0300	12/26/02	871788.07	234684.72	NS	NS	NS	NS	NS	7.25	11.30	6.37	437	52	1.6
36SW0300	01/02/03	871788.07	234684.72	NS	NS	NS	NS	NS	7.25	10.86	6.05	367	63	4.2
36SW0300	01/02/03	871788.07	234684.72	NS	NS	NS	NS	NS	7.37	11.43	6.11	346	63	12
36SW0300	01/10/03	871788.07	234684.72	NS	NS	NS	NS	NS	5.90	10.14	6.00	226	70	9.7
36SW0300	01/16/03	871788.07	234684.72	NS	NS	NS	NS	NS	4.54	8.49	5.89	301	85	0.7

Table 3-5
Quashnet River and Bogs Surface Water Ethylene Dibromide Concentrations and Water Quality Parameters,
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Location	Sample Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Method	EDB µg/L (method E504.1)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
					Result	Qual	DL	RL						
36SW0300	01/17/03	871788.07	234684.72	E504	ND	U	0.0022	0.01	4.88	10.25	5.92	369	73	2.0
36SW0300	01/22/03	871788.07	234684.72	NS	NS	NS	NS	NS	4.66	10.54	5.92	349	64	1.1
36SW0300	03/25/03	871788.07	234684.72	E504	0.005	J	0.004	0.01	8.64	11.46	6.14	429	58	29
36SW0300	04/24/03	871788.07	234684.72	NS	NS	NS	NS	NS	13.03	12.32	5.98	398	58	0.9
36SW0301	06/27/02	871792.93	234645.85	E504	ND	U	0.0022	0.01	18.22	15.82	7.03	181	66	2.1
36SW0301	09/19/02	871792.93	234645.85	E504	ND	U	0.0022	0.01	14.68	12.23	6.62	204	61	1.4
36SW0301	10/18/02	871792.93	234645.85	E504	ND	U	0.0022	0.01	12.14	10.24	6.06	353	75	18
36SW0301	10/30/02	871792.93	234645.85	E504	ND	U	0.0022	0.01	11.24	5.57	5.99	403	88	3.4
36SW0301	11/14/02	871792.93	234645.85	E504	ND	U	0.0022	0.01	11.16	7.90	6.05	270	96	13
36SW0301	11/27/02	871792.93	234645.85	E504	ND	U	0.0022	0.01	8.44	9.66	5.94	320	57	9.2
36SW0301	12/16/02	871792.93	234645.85	E504	0.007	J	0.0022	0.01	8.52	8.85	5.99	388	108	16
36SW0301	01/02/03	871792.93	234645.85	E504	0.008	J	0.0022	0.01	7.39	9.13	6.05	349	111	4.6
36SW0301	01/17/03	871792.93	234645.85	E504	ND	U	0.0022	0.01	4.38	10.89	5.89	373	68	2.1
36SW0301	03/25/03	871792.93	234645.85	E504	0.015		0.004	0.01	8.07	8.59	5.94	425	94	11
36SW0301	04/24/03	871792.93	234645.85	E504	0.041		0.004	0.01	9.72	8.59	5.88	396	82	5.2
36SW0302	06/27/02	871337.35	234440.58	NS	NS	NS	NS	NS	13.87	12.94	7.34	171	79	1.3
36SW0302	10/18/02	871337.35	234440.58	E504	ND	U	0.0022	0.01	11.25	8.93	6.21	356	65	0.7
36SW0302	10/30/02	871337.35	234440.58	E504	ND	U	0.0022	0.01	9.41	9.30	6.15	420	65	0.5
36SW0302	11/14/02	871337.35	234440.58	E504	ND	U	0.0022	0.01	9.57	8.47	5.99	270	64	0.7
36SW0302	11/27/02	871337.35	234440.58	E504	ND	U	0.0022	0.01	6.97	8.73	6.22	134	105	59
36SW0302	12/16/02	871337.35	234440.58	E504	ND	U	0.0022	0.01	7.80	9.83	6.17	378	62	1.7
36SW0302	01/02/03	871337.35	234440.58	E504	ND	U	0.0022	0.01	6.37	10.90	6.16	324	67	13
36SW0302	01/17/03	871337.35	234440.58	E504	ND	U	0.0022	0.01	2.69	8.35	6.07	350	72	0.2
36SW0302	03/14/03	871337.35	234440.58	E504	ND	U	0.004	0.01	6.69	12.91	6.07	392	63	2.1
36SW0302	04/24/03	871337.35	234440.58	E504	ND	U	0.004	0.01	13.63	13.77	6.53	355	62	-0.5
36SW0303	06/27/02	871643.97	234099.45	E504	ND	U	0.0022	0.01	30.32	14.40	8.26	111	70	0.9
36SW0303	09/19/02	871643.97	234099.45	E504	ND	U	0.0022	0.01	15.94	15.12	6.99	161	59	6.8
36SW0303	10/18/02	871643.97	234099.45	E504	ND	U	0.0022	0.01	12.36	7.13	6.26	348	76	2.1
36SW0303	10/30/02	871643.97	234099.45	E504	0.005	J	0.0022	0.01	10.61	10.58	6.26	403	70	2.1
36SW0303	11/14/02	871643.97	234099.45	E504	0.012		0.0022	0.01	9.41	9.82	6.15	279	70	4.7
36SW0303	11/27/02	871643.97	234099.45	E504	0.009	J	0.0022	0.01	7.92	10.01	6.26	327	65	12
36SW0303	12/16/02	871643.97	234099.45	E504	0.012		0.0022	0.01	7.92	8.97	6.35	365	69	32
36SW0303	01/02/03	871643.97	234099.45	E504	0.01		0.0022	0.01	5.58	11.28	6.32	313	74	5.2
36SW0303	01/17/03	871643.97	234099.45	E504	0.01		0.0022	0.01	4.40	10.45	6.55	321	73	1.9
36SW0303	03/25/03	871643.97	234099.45	E504	0.033		0.004	0.01	8.18	9.21	6.10	437	72	12
36SW0303	04/24/03	871643.97	234099.45	E504	0.016		0.004	0.01	12.02	9.66	6.55	355	68	33
36SW4188	05/23/02	871721.09	233176.08	E504	0.047		0.0022	0.01	11.90	9.10	6.63	91	94	6.9
36SW4188	06/27/02	871721.09	233176.08	E504	0.046		0.0022	0.01	23.82	14.32	8.04	153	92	9.6
36SW4188	07/25/02	871721.09	233176.08	E504	0.012		0.0022	0.01	22.27	6.65	7.62	40	60	39

Table 3-5
Quashnet River and Bogs Surface Water Ethylene Dibromide Concentrations and Water Quality Parameters,
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Location	Sample Date	Surface Easting Coordinate (ft)	Surface Northing Coordinate (ft)	Method	EDB µg/L (method E504.1)				Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
					Result	Qual	DL	RL						
36SW4188	08/28/02	871721.09	233176.08	E504	0.014		0.0022	0.01	15.92	7.97	6.97	-81	92	2.9
36SW4188	09/19/02	871721.09	233176.08	E504	0.017		0.0022	0.01	18.57	10.76	7.13	171	88	28
36SW4188	10/18/02	871721.09	233176.08	E504	0.015		0.0022	0.01	12.38	6.46	6.51	173	93	14
36SW4188	10/30/02	871721.09	233176.08	E504	0.031		0.0022	0.01	9.22	13.22	6.40	328	89	9.9
36SW4188	11/14/02	871721.09	233176.08	E504	0.034		0.0022	0.01	10.10	9.62	6.51	161	81	23
36SW4188	11/27/02	871721.09	233176.08	E504	ND	U	0.0022	0.01	5.86	11.39	6.53	281	54	13
36SW4188	12/16/02	871721.09	233176.08	E504	ND	U	0.0022	0.01	4.65	5.03	6.66	175	92	26
36SW4188	01/02/03	871721.09	233176.08	E504	0.023		0.0022	0.01	3.98	10.68	6.45	145	66	17
36SW4188	04/24/03	871721.09	233176.08	E504	0.021		0.004	0.01	13.05	4.77	7.05	22	105	48

Data Source: AFCEE, 14 July 2003, MMR-AFCEE Data Warehouse

Notes:

Method E504.1 used for EDB analysis

The accuracy of the field parameter instrument readings is as follows: temperature (+/- 0.15%), specific conductance (+/- 0.5% of reading plus 1 µS/cm), dissolved oxygen (for instrument readings 0-20 mg/L, +/- 0.2 mg/L and for instrument readings 20-50 mg/L, +/- 0.6 mg/L), pH (+/- 0.2 units), oxidation-reduction potential (+/- 20 mV), turbidity (the greater of +/- 5% of reading or +/- 2 NTU).

Key:

°C = degrees Celsius

EDB = ethylene dibromide

ft = feet

J = estimated concentration

mg/L = milligram per liter

mV = millivolts

NA = not available

ND = nondetect

NS = not scheduled to be sampled

NTU = nephelometric turbidity units

U = not detected above the method detection limit

µg/L = micrograms per liter

µS/cm = microsiemens per centimeter

Table 3-6
FS-1 Treatment Plant Process Water Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Sample Date	Time	Loc ID	Location	EDB (µg/L)	Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
1-May-02	13:50	36EW0005	Deep Well Influent	1.35	10.26	6.30	6.27	272	93	0
	13:55	36PLT01005	Shallow Well Points Influent	0.156	10.46	7.78	6.10	273	88	0
	14:00	36PLT01001	Combined Influent	NS	10.34	17.08 ¹	6.02	326	90	0
	14:10	36PLT01002	Post GAC 101A	NS	10.44	6.41	5.97	317	90	0
	14:05	36PLT01004	Post GAC 101B	0.029	10.43	8.39	6.00	318	89	0
	14:15	36PLT01003	Plant Effluent	ND	10.44	6.28	5.93	282	90	0
13-May-02	15:40	36EW0005	Deep Well Influent	NS	10.28	6.34	6.34	289	83	0
	15:45	36PLT01005	Shallow Well Points Influent	NS	10.36	8.47	6.18	286	78	0.4
	15:50	36PLT01001	Combined Influent	NS	10.27	7.56	6.05	331	80	0
	16:00	36PLT01002	Post GAC 101A	NS	10.34	7.05	5.97	341	80	0
	15:55	36PLT01004	Post GAC 101B	NS	10.31	7.55	5.95	338	80	0
	16:05	36PLT01003	Plant Effluent	NS	10.32	6.77	5.93	299	80	0
Carbon was replaced in vessel 101B on 30 May 2002. Following carbon replacement, vessel 101A was aligned as lead and 101B as lag.										
7-Jun-02	8:50	36EW0005	Deep Well Influent	1.39	10.29	7.60	6.48	315	83	0
	8:55	36PLT01005	Shallow Well Points Influent	0.125	10.58	10.73	6.21	323	77	0.1
	9:00	36PLT01001	Combined Influent	NS	10.43	8.27	6.10	340	80	0
	9:05	36PLT01002	Post GAC 101A	ND	10.47	10.65	5.98	348	74	0
	9:10	36PLT01003	Plant Effluent	ND	10.55	10.02	6.04	313	79	0.1
19-Jun-02	16:00	36EW0005	Deep Well Influent	NS	10.32	7.85	6.95	378	82	0
	16:05	36PLT01005	Shallow Well Points Influent	NS	11.05	10.08	6.39	359	65	0.1
	16:10	36PLT01001	Combined Influent	NS	10.66	8.23	6.21	384	79	0
	16:15	36PLT01002	Post GAC 101A	NS	10.76	9.18	6.12	356	77	0.1
	16:20	36PLT01003	Plant Effluent	NS	10.80	9.33	6.07	340	79	0
8-Jul-02	14:13	36EW0005	Deep Well Influent	1.33	10.28	6.31	6.40	350	84	0.2
	14:22	36PLT01005	Shallow Well Points Influent	0.142	11.47	8.28	6.27	348	79	0
	14:30	36PLT01001	Combined Influent	NS	10.96	7.46	6.06	370	81	0
	14:40	36PLT01002	Post GAC 101A	ND	11.03	7.07	6.04	339	81	0
	14:50	36PLT01003	Plant Effluent	ND	11.07	9.38	5.99	348	81	0
16-Jul-02	10:35	36EW0005	Deep Well Influent	NS	10.48	7.35	6.96	330	85	0.4
	10:40	36PLT01005	Shallow Well Points Influent	NS	11.54	9.43	6.57	340	79	0.7
	10:45	36PLT01001	Combined Influent	NS	11.07	8.67	6.39	358	81	0.5
	10:50	36PLT01002	Post GAC 101A	NS	11.07	8.20	6.26	367	81	0
	10:55	36PLT01003	Plant Effluent	NS	11.07	7.95	6.20	340	81	1.7
5-Aug-02	11:25	36EW0005	Deep Well Influent	1.46	10.60	8.31	7.02	333	85	6.4
	11:30	36PLT01005	Shallow Well Points Influent	0.135	12.05	8.88	6.40	343	79	2.5
	11:40	36PLT01001	Combined Influent	NS	12.45	7.96	6.31	376	84	0.1
	11:50	36PLT01002	Post GAC 101A	0.038	12.22	8.65	6.15	348	82	0
	12:00	36PLT01003	Plant Effluent	ND	12.14	7.17	6.09	348	77	0
22-Aug-02	10:40	36EW0005	Deep Well Influent	NS	10.56	6.84	6.51	334	84	0
	10:45	36PLT01005	Shallow Well Points Influent	NS	11.90	8.70	6.35	373	79	0
	10:50	36PLT01001	Combined Influent	NS	11.27	7.80	6.25	387	81	0
	10:55	36PLT01002	Post GAC 101A	NS	11.28	7.30	6.18	321	81	0
	11:00	36PLT01003	Plant Effluent	NS	11.36	7.06	6.13	359	81	0
Carbon was replaced in vessel 101A on 29 August 2002. Following carbon replacement, vessel 101B was aligned as lead and 101A as lag.										
9-Sep-02	13:35	36EW0005	Deep Well Influent	1.78	10.39	6.39	5.91	374	84	0.1
	13:40	36PLT01005	Shallow Well Points Influent	0.141	12.08	9.81	5.95	374	79	0
	13:45	36PLT01001	Combined Influent	NS	11.34	7.63	5.81	392	81	0
	13:50	36PLT01004	Post GAC 101B	ND	11.49	7.29	5.86	318	81	0
	13:55	36PLT01003	Plant Effluent	ND	11.53	6.91	5.82	388	81	0
15-Sep-02	14:00	36EW0005	Deep Well Influent	NS	11.06	7.42	6.61	396	88	1.5
	14:08	36PLT01005	Shallow Well Points Influent	NS	12.17	9.29	6.33	392	80	1.5
	14:13	36PLT01001	Combined Influent	NS	11.43	8.81	6.28	392	82	0.2
	14:20	36PLT01004	Post GAC 101B	NS	11.59	10.87	6.13	333	82	0.1
	14:25	36PLT01003	Plant Effluent	NS	11.45	7.68	6.07	371	82	0.2

Table 3-6
FS-1 Treatment Plant Process Water Ethylene Dibromide Concentrations and Water Quality Parameters,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Sample Date	Time	Loc ID	Location	EDB (µg/L)	Temperature (°C)	Dissolved Oxygen (mg/L)	pH (pH units)	Oxidation-Reduction Potential (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
1-Oct-02	12:10	36EW0005	Deep Well Influent	1.26	11.19	10.31	6.67	372	89	1.0
	12:15	36PLT01005	Shallow Well Points Influent	0.106	12.13	8.68	6.36	370	81	1.1
	12:20	36PLT01001	Combined Influent	NS	11.65	8.14	6.21	396	83	0
	12:27	36PLT01004	Post GAC 101B	0.006 J	11.64	7.51	6.10	352	83	0
	12:32	36PLT01003	Plant Effluent	ND	11.64	6.87	6.05	368	83	0
An additional sample was collected on 3 October 2002 to confirm breakthrough of vessel 101B.										
3-Oct-02	14:40	36PLT01004	Post GAC 101B	0.006 J	NC	NC	NC	NC	NC	NC
The FS-1 treatment plant went out of service on 13 October 2002 due to fire damage.										

Data Source: AFCEE, 16 April and 26 September 2003, MMR-AFCEE Data Warehouse

Note:

The accuracy of the field parameter instrument readings is as follows: temperature (+/- 0.15%), specific conductance (+/- 0.5% of reading plus 1 µS/cm), dissolved oxygen (for instrument readings 0-20 mg/L, +/- 0.2 mg/L and for instrument readings 20-50 mg/L, +/- 0.6 mg/L), pH (+/- 0.2 units), oxidation-reduction potential (+/- 20 mV), turbidity (the greater of +/- 5% of reading or +/- 2 NTU).

¹ = This dissolved oxygen concentration appears to be erroneous since it is very difficult to have supersaturated concentrations in the combined influent.

Key:

°C = degrees Celsius

EDB = ethylene dibromide

J = estimated value

mg/L = milligrams per liter

mV = millivolts

NC = not collected

ND = not detected

NS = not sampled

NTU = nephelometric turbidity units

µg/L = micrograms per liter

µS/cm = microsiemens per centimeter

Table 3-7
FS-1 Treatment Plant Process Water Physicochemical Results,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

	Date	Method	Analyte	Result	Qual	DL	RL	Units
Combined Influent								
36PLT01001	07/08/02	E310.1	ALKALINITY, TOTAL (AS CaCO ₃)	18.0	J	0.69	20	mg/L
36PLT01001	10/01/02	E310.1	ALKALINITY, TOTAL (AS CaCO ₃)	17.6	J	0.692	20	mg/L
36PLT01001	07/08/02	E405.1	BIOLOGIC OXYGEN DEMAND, FIVE DAY	ND	U	6	6	mg/L
36PLT01001	10/01/02	E405.1	BIOLOGIC OXYGEN DEMAND, FIVE DAY	ND	U	0.244	2	mg/L
36PLT01001	07/08/02	E410.4	COD - CHEMICAL OXYGEN DEMAND	7.73	J	3	15	mg/L
36PLT01001	10/01/02	E410.4	COD - CHEMICAL OXYGEN DEMAND	ND	U	3.2	15	mg/L
36PLT01001	05/01/02	E415.1	DISSOLVED ORGANIC CARBON	ND	U	0.796	3.72	mg/L
36PLT01001	06/07/02	E415.1	DISSOLVED ORGANIC CARBON	2.0		0.054	1	mg/L
36PLT01001	07/08/02	E415.1	DISSOLVED ORGANIC CARBON	3.0		0.054	1	mg/L
36PLT01001	08/05/02	E415.1	DISSOLVED ORGANIC CARBON	9.6		0.054	1	mg/L
36PLT01001	09/09/02	E415.1	DISSOLVED ORGANIC CARBON	3.4		0.054	1	mg/L
36PLT01001	10/01/02	E415.1	DISSOLVED ORGANIC CARBON	9.1		0.054	1	mg/L
36PLT01001	07/08/02	E160.2	SUSPENDED SOLIDS (RESIDUE, NON-FILTERABLE)	ND	U	1.9	4	mg/L
36PLT01001	10/01/02	E160.2	SUSPENDED SOLIDS (RESIDUE, NON-FILTERABLE)	ND	U	1.9	4	mg/L
36PLT01001	07/08/02	E160.1	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	40		2.8	10	mg/L
36PLT01001	10/01/02	E160.1	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	49		2.8	10	mg/L
36PLT01001	05/01/02	E415.1	TOTAL ORGANIC CARBON	ND	U	0.808	1.5	mg/L
36PLT01001	06/07/02	E415.1	TOTAL ORGANIC CARBON	ND	U	0.593	3.42	mg/L
36PLT01001	07/08/02	E415.1	TOTAL ORGANIC CARBON	ND	U	0.824	2.31	mg/L
36PLT01001	08/05/02	E415.1	TOTAL ORGANIC CARBON	ND	U	0.936	2.54	mg/L
36PLT01001	09/09/02	E415.1	TOTAL ORGANIC CARBON	3.8		0.054	1	mg/L
36PLT01001	10/01/02	E415.1	TOTAL ORGANIC CARBON	8.1		0.054	1	mg/L
Effluent								
36PLT01003	07/08/02	E310.1	ALKALINITY, TOTAL (AS CaCO ₃)	20.0		0.69	20	mg/L
36PLT01003	10/01/02	E310.1	ALKALINITY, TOTAL (AS CaCO ₃)	17.6	J	0.692	20	mg/L
36PLT01003	07/08/02	E405.1	BIOLOGIC OXYGEN DEMAND, FIVE DAY	ND	U	6	6	mg/L
36PLT01003	10/01/02	E405.1	BIOLOGIC OXYGEN DEMAND, FIVE DAY	ND	U	0.244	2	mg/L
36PLT01003	07/08/02	E410.4	COD - CHEMICAL OXYGEN DEMAND	10.1	J	3	15	mg/L
36PLT01003	10/01/02	E410.4	COD - CHEMICAL OXYGEN DEMAND	ND	U	3.2	15	mg/L
36PLT01003	05/01/02	E415.1	DISSOLVED ORGANIC CARBON	ND	U	0.761	3.72	mg/L
36PLT01003	06/07/02	E415.1	DISSOLVED ORGANIC CARBON	3.0		0.054	1	mg/L
36PLT01003	07/08/02	E415.1	DISSOLVED ORGANIC CARBON	5.8		0.34	1	mg/L
36PLT01003	08/05/02	E415.1	DISSOLVED ORGANIC CARBON	3.0		0.054	1	mg/L
36PLT01003	09/09/02	E415.1	DISSOLVED ORGANIC CARBON	4.0		0.054	1	mg/L
36PLT01003	10/01/02	E415.1	DISSOLVED ORGANIC CARBON	9.0		0.054	1	mg/L
36PLT01003	07/08/02	E160.2	SUSPENDED SOLIDS (RESIDUE, NON-FILTERABLE)	ND	U	1.9	4	mg/L
36PLT01003	10/01/02	E160.2	SUSPENDED SOLIDS (RESIDUE, NON-FILTERABLE)	ND	U	1.9	4	mg/L
36PLT01003	07/08/02	E160.1	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	40		2.8	10	mg/L
36PLT01003	10/01/02	E160.1	TOTAL DISSOLVED SOLIDS (RESIDUE, FILTERABLE)	59		2.8	10	mg/L
36PLT01003	05/01/02	E415.1	TOTAL ORGANIC CARBON	ND	U	0.913	1.5	mg/L
36PLT01003	06/07/02	E415.1	TOTAL ORGANIC CARBON	ND	U	0.484	3.42	mg/L
36PLT01003	07/08/02	E415.1	TOTAL ORGANIC CARBON	ND	U	0.771	2.31	mg/L
36PLT01003	08/05/02	E415.1	TOTAL ORGANIC CARBON	ND	U	0.756	2.54	mg/L
36PLT01003	09/09/02	E415.1	TOTAL ORGANIC CARBON	5.0		0.054	1	mg/L
36PLT01003	10/01/02	E415.1	TOTAL ORGANIC CARBON	7.5		0.054	1	mg/L

Data Source: AFCEE, 16 April 2003, MMR-AFCEE Data Warehouse

Note: FS-1 Treatment system destroyed by a fire on 13 October 2002.

Key:

CaCO₃ = calcium carbonate

DL = method detection limit

J = estimated concentration

mg/L milligrams per liter

ND = nondetect

Qual = validation qualifier

RL = reporting limit

U = not detected above the method detection limit

Table 3-8
FS-1 Treatment Plant Downtime Summary,
May 2002 - April 2003
Final FS-1 2003 Annual SPEIM Report

Date	Hours Off-Line	Reason
05/03/02	3.5	Pump performance test
05/30 - 05/31/02	23.58	Carbon exchange
06/18 - 06/19/02	10.88	Power outage
06/29/02	5.17	Power failure at skid
08/05/02	1.67	Power outage
08/20/02	1.9	Power outage
08/29 - 08/30/02	24.23	Carbon exchange
08/31/02	1.42	Backwash
09/22/02	0.58	Power outage
09/23/02	0.47	Power outage
09/24/02	1.25	Plant upgrade
09/26/02	2.5	Plant upgrade
10/06/02	1.13	Power failure at skid
10/07/02	1.22	Plant upgrade
10/13/02*	indefinite	Treatment plant destroyed by fire

* Redesigned system scheduled to be operational in October 2003.

Table 5-1
Recommended FS-1 Post Treatment System Startup SPEIM Groundwater Monitoring Frequencies
Final FS-1 2003 Annual SPEIM Report

Location Identification	Rationale for Selecting Sampling Location	FS-1 SPEIM Interim Monitoring Frequency (January - October 2003)	FS-1 SPEIM Monitoring Frequency (Post Treatment System Startup)	Parameters
00MW0552A	South of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	EDB/Field
00MW0552B	South of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW0002 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	VOCs/metals/Field
36MW0007 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	VOCs/metals/Field
36MW0010A ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	VOCs/metals/Field
36MW0015 ¹	FS-1 plume source area monitoring	Quarterly	Quarterly	VOCs/metals/Field
36MW0131A	FS-1 interior well	Bimonthly	Quarterly	EDB/Field
36MW0131B	FS-1 interior well	Bimonthly	Quarterly	EDB/Field
36MW0131C	FS-1 interior well	Bimonthly	Quarterly	EDB/Field
36MW0132A	FS-1 leading edge	Bimonthly	Quarterly	EDB/Field
36MW0132B	FS-1 leading edge	Bimonthly	Quarterly	EDB/Field
36MW0132C	FS-1 leading edge	Bimonthly	Quarterly	EDB/Field
36MW0133	Southeast of the FS-1 leading edge	Bimonthly	Quarterly	EDB/Field
36MW0135	South of the FS-1 leading edge	Bimonthly	Quarterly	EDB/Field
36MW0136	Southeast of the FS-1 leading edge	Bimonthly	Quarterly	EDB/Field
36MW0137	West boundary of FS-1 plume	Quarterly	Quarterly	EDB/Field
36MW0138	Southeast of the FS-1 leading edge, outside plume boundary	Semiannually	Semiannually	EDB/Field
36MW0139	West of the FS-1 plume, outside plume boundary	Quarterly	Semiannually	EDB/Field
36MW0140	East of the FS-1 plume, outside plume boundary	Bimonthly	Quarterly	EDB/Field
36MW0141	East of the FS-1 plume, outside plume boundary	Quarterly	Semiannually	EDB/Field
36MW0143	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW0501	East of the FS-1 plume, outside plume boundary	Quarterly	Semiannually	EDB/Field
36MW0503A	Mid-interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW0503B	Mid-interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW0503C	Mid-interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW0504	West of the FS-1 plume, outside plume boundary	Quarterly	Semiannually	EDB/Field
36MW0603A	Northern interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW0603B	Northern interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW0604	West of FS-1 plume, outside plume boundary	Quarterly	Semiannually	EDB/Field
36MW1001A	Interior of FS-1 plume, leading edge	Bimonthly	Quarterly	EDB/Field
36MW1001B	Interior of FS-1 plume, leading edge	Bimonthly	Quarterly	EDB/Field
36MW1003A	Interior of FS-1 plume, leading edge	Bimonthly	Quarterly	EDB/Field
36MW1010A	Interior of FS-1 plume	Quarterly	Quarterly	EDB/Field
36MW1010B	Interior of FS-1 plume	Bimonthly	Quarterly	EDB/Field
36MW1010C	Interior of FS-1 plume	Quarterly	Quarterly	EDB/Field
36MW1011A	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW1011B	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW1012A	Leading edge of FS-1 plume, west side	Quarterly	Quarterly	EDB/Field
36MW1012B	Leading edge of FS-1 plume, west side	Bimonthly	Quarterly	EDB/Field
36MW1012C	Leading edge of FS-1 plume, west side	Quarterly	Quarterly	EDB/Field
36MW1013A	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW1013B	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW1013C	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW1013D	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW1013E	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	EDB/Field
36MW1014A	FS-1 plume, west edge	Bimonthly	Quarterly	EDB/Field
36MW1014B	FS-1 plume, west edge	Bimonthly	Quarterly	EDB/Field
36MW1035	North of FS-1 Plume, outside plume boundary	Quarterly	Semiannually	EDB/Field
36MW1036A	Northern interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW1036B	Northern interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW1036C	Northern interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW1038A	Interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW1038B	Interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW1038C	Interior of FS-1 plume	Quarterly	Semiannually	EDB/Field
36MW1039A	FS-1 plume, west edge	Quarterly	Semiannually	EDB/Field
36MW1039B	FS-1 plume, west edge	Quarterly	Semiannually	EDB/Field
36MW1039C	FS-1 plume, west edge	Quarterly	Semiannually	EDB/Field
36MW1040A	FS-1 plume, east edge	Quarterly	Semiannually	EDB/Field
36MW1040B	FS-1 plume, east edge	Quarterly	Semiannually	EDB/Field
36MW1041A	FS-1 plume, Interior	Quarterly	Semiannually	EDB/Field
36MW1041B	FS-1 plume, Interior	Quarterly	Semiannually	EDB/Field
36MW1041C	FS-1 plume, Interior	Quarterly	Semiannually	EDB/Field
36MW1042A	North of FS-1 Plume, outside plume boundary	Quarterly	Semiannually	EDB/Field
36MW1042B	North of FS-1 Plume, outside plume boundary	Quarterly	Semiannually	EDB/Field
36MW1043A	Monitor the northern interior portion of the FS-1 plume (installed June 2002)	Quarterly	Semiannually	EDB/Field
36MW1043B	Monitor the northern interior portion of the FS-1 plume (installed June 2002)	Quarterly	Semiannually	EDB/Field
36PZ1001	Interior of FS-1 plume, leading edge	Bimonthly	Quarterly	EDB/Field
36PZ1002A	West of FS-1 plume, leading edge	Bimonthly	Quarterly	EDB/Field
36PZ1002B	West of FS-1 plume, leading edge	Bimonthly	Quarterly	EDB/Field
36PZ1003	West boundary of FS-1 plume	Bimonthly	Quarterly	EDB/Field
36PZ1010	Interior of FS-1 plume	Quarterly	Quarterly	EDB/Field
36MW0001	Extraction well in the southern portion of the FS-1 plume	NA	Monthly	EDB/Field
36MW0005	Extraction well in the southwestern portion of the FS-1 plume	NA	Monthly	EDB/Field

Table 5-1
Recommended FS-1 Post Treatment System Startup SPEIM Groundwater Monitoring Frequencies
Final FS-1 2003 Annual SPEIM Report

Location Identification	Rationale for Selecting Sampling Location	FS-1 SPEIM Interim Monitoring Frequency (January - October 2003)	FS-1 SPEIM Monitoring Frequency (Post Treatment System Startup)	Parameters
36MW0007	Extraction well in the southeastern portion of the FS-1 plume	NA	Monthly	EDB/Field
36MW0011	Extraction well in the central portion of the FS-1 plume	NA	Monthly	EDB/Field
36EW4010	Monitor shallow groundwater adjacent to the K2 bog east ditch	Bimonthly	Quarterly	EDB/Field
36EW4020	Monitor shallow groundwater adjacent to the K2 bog east ditch	Bimonthly	Quarterly	EDB/Field
36EW4035	Monitor shallow groundwater adjacent to the K2 bog east ditch	Bimonthly	Quarterly	EDB/Field
36EW4046	Monitor shallow groundwater adjacent to the K2 bog east ditch	Bimonthly	Quarterly	EDB/Field
36EW4054	Monitor shallow groundwater adjacent to the K2 bog east ditch	Bimonthly	Quarterly	EDB/Field
36EW4065	Monitor shallow groundwater adjacent to the K2 bog east ditch	Bimonthly	Quarterly	EDB/Field
36EW4074	Monitor shallow groundwater adjacent to the K2 bog east ditch	Bimonthly	Quarterly	EDB/Field
36EW4084	Monitor shallow groundwater adjacent to the K2 bog east ditch	Bimonthly	Quarterly	EDB/Field
36EW4090	Monitor shallow groundwater between the K2 and K6 bogs	Bimonthly	Quarterly	EDB/Field
36EW4100	Monitor shallow groundwater between the K2 and K6 bogs	Bimonthly	Quarterly	EDB/Field
36EW4132	Monitor shallow groundwater immediately north of the K6 bog	Bimonthly	Quarterly	EDB/Field
36EW4135	Monitor shallow groundwater immediately north of the K6 bog	Bimonthly	Quarterly	EDB/Field
36EW4137	Monitor shallow groundwater along the west side of the K6 bog	Bimonthly	Quarterly	EDB/Field
36EW4149	Monitor shallow groundwater along the west side of the K6 bog	Bimonthly	Quarterly	EDB/Field
00MW0552A	South of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	WL
00MW0552B	South of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	WL
36MW0139	West of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW0141	East of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW0501	East of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW0503A	Mid-interior of FS-1 plume	Quarterly	Quarterly	WL
36MW0503B	Mid-interior of FS-1 plume	Quarterly	Quarterly	WL
36MW0503C	Mid-interior of FS-1 plume	Quarterly	Quarterly	WL
36MW0504	West of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW0603A	Northern interior of FS-1 plume	Quarterly	Quarterly	WL
36MW0603B	Northern interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1010A	Interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1010C	Interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1011A	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	WL
36MW1011B	Southwest of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	WL
36MW1013A	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW1013B	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW1013C	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW1013D	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW1013E	East edge of FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW1036A	Northern interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1036B	Northern interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1036C	Northern interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1038A	Interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1038B	Interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1038C	Interior of FS-1 plume	Quarterly	Quarterly	WL
36MW1040A	FS-1 plume, east edge	Quarterly	Quarterly	WL
36MW1040B	FS-1 plume, east edge	Quarterly	Quarterly	WL
36MW1041A	FS-1 plume, Interior	Quarterly	Quarterly	WL
36MW1041B	FS-1 plume, Interior	Quarterly	Quarterly	WL
36MW1041C	FS-1 plume, Interior	Quarterly	Quarterly	WL
36PZ1010	Interior of FS-1 plume	Quarterly	Quarterly	WL
00MW0552C	South of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	WL
00MW0552D	South of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	WL
36MW0132A	FS-1 leading edge	Quarterly	Quarterly	WL
36MW0132B	FS-1 leading edge	Quarterly	Quarterly	WL
36MW0132C	FS-1 leading edge	Quarterly	Quarterly	WL
36MW0133	Southeast of the FS-1 leading edge	Quarterly	Quarterly	WL
36MW0136	Southeast of the FS-1 leading edge	Quarterly	Quarterly	WL
36MW0138	Southeast of the FS-1 leading edge, outside plume boundary	Quarterly	Quarterly	WL
36MW0140	East of the FS-1 plume, outside plume boundary	Quarterly	Quarterly	WL
36MW1010B	Interior of FS-1 plume	Quarterly	Quarterly	WL
36PZ4235	Monitor shallow groundwater in the vicinity of the vernal pool southeast of EW7 (installed April 2002)	Monthly	Monthly	WL
36PZ4236	Monitor shallow groundwater in the vicinity of the wetland north of Grafton Pocknet Road (installed April 2002)	Monthly	Monthly	WL
36PZ4237	Monitor shallow groundwater in the vicinity of the wetland east of the K-1 bog (installed June 2002)	Monthly	Monthly	WL

Key:

¹ = Source area monitoring includes volatile organic compounds, total metals, temperature, dissolved oxygen, specific conductance, pH, oxidation-reduction potential, and turbidity

EDB = ethylene dibromide

Field = temperature, DO, pH, specific conductance, oxidation-reduction potential, and turbidity

NA = not applicable

VOCs = volatile organic compounds

WL = water level

Table 5-2
Recommended FS-1 Post Treatment System Startup SPEIM Surface Water Monitoring Frequencies
Final FS-1 2003 Annual SPEIM Report

Location Identification	Rationale for Selecting Sampling Location	FS-1 SPEIM Interim Monitoring Frequency (January - October 2003)	FS-1 SPEIM Monitoring Frequency (Post Treatment System Startup)	Parameters
36SG0001B/C	Characterize flow in the Quashnet River downgradient of the bogs.	Quarterly	Quarterly	Stream Gauging
36SG0015A/B	Characterize flow in the Quashnet River upgradient of the bogs.	Quarterly	Quarterly	Stream Gauging
36SG0200A/B	Characterize flow in the Quashnet River (near 36SW0003).	Quarterly	Quarterly	Stream Gauging
36SG0201A/B	Characterize flow of the lower reach of the K2 bog east ditch.	Quarterly	Quarterly	Stream Gauging
36SG0301C/D	Characterize flow from K1 bog.	Quarterly	Quarterly	Stream Gauging
36SG0303A/B	Characterize flow of the middle reach of the K2 bog east ditch.	Quarterly	Quarterly	Stream Gauging
36SW0001	Characterize surface water downstream of the cranberry bogs.	Monthly	Quarterly	EDB, Field
36SW0003	Characterize surface water downgradient of treatment system surface discharge, Quashnet River.	Monthly	Quarterly	EDB, Field
36SW0007	Characterize surface water inflowing to the K-1 bog.	Monthly	Quarterly	EDB, Field
36SW0010	Characterize surface water of the K-1 bog discharging to the northern tributary of the Quashnet River (K-2 bog west ditch).	Hourly	Hourly	Temp, DO
		Monthly	Quarterly	EDB, Field
36SW0015	Characterize surface water of the Quashnet River entering the bogs.	Monthly	Quarterly	EDB, Field
36SW0019	Characterize surface water of the K-6 bog.	Monthly	Monthly	EDB, Field
36SW0036	Characterize surface water of the K-6 bog.	Monthly	Quarterly	EDB, Field
36SW00200	Characterize surface water of the K-2 east ditch.	Monthly	Monthly	EDB, Field
36SW0201	Characterize surface water of the K-2 bog east ditch.	Monthly	Monthly	EDB, Field
36SW0221	Characterize surface water of the K-1 bog north ditch.	Monthly	Quarterly	EDB, Field
36SW0300	Characterize surface water of the K-2 bog west ditch.	Hourly	Hourly	Temp, DO
		Monthly	Quarterly	EDB, Field
36SW0301	Characterize surface water downgradient of treatment system surface discharge, swale along eastern side of K-2 bog.	Monthly	Monthly	EDB, Field
36SW0302	Characterize surface water at the area of treatment system surface discharge of the K-2 bog west ditch.	Monthly	Quarterly	EDB, Field
36SW0303	Characterize surface water of the K-2 bog east ditch.	Monthly	Monthly	EDB, Field
36SW4188	Characterize surface water of the K-6 bog.	Monthly	Monthly	EDB, Field

Key:

DO = dissolved oxygen

EDB = ethylene dibromide

Field = temperature, DO, pH, specific conductance, oxidation-reduction potential, and turbidity

Temp = temperature

Table 5-3
FS-1 Treatment Plant Monitoring
Final FS-1 2003 Annual SPEIM Report

Location Identification	Rationale for Selecting Sampling Location	Frequency	Parameters
36PLT02001	Plant combined influent	monthly	EDB/Field
36PLT02002	Post-GAC	monthly	EDB/Field
36PLT02003	Post-GAC	monthly	EDB/Field
36PLT02005	Plant effluent	monthly	EDB/Field

Key:

EDB = ethylene dibromide

Field = temperature, dissolved oxygen, pH, specific conductance, oxidation-reduction potential, and turbidity

APPENDIX A

Analytical Laboratory Results

Appendix A-1 Jacobs Analytical Laboratory Results:
November 2002 – March 2003

Appendix A-2 CH2M HILL Analytical Laboratory Results:
April 2003

APPENDIX A-1

Jacobs Analytical Laboratory Results: November 2002 – March 2003

Appendix A-1
Analytical Laboratory Results, November 2002-March 2003
Final FS-1 2003 Annual SPEIM Report

Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
00MW0552A	00MW0552A-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	117.5	ND	0.0022	0.01	µg/L	U	PB-E137001
00MW0552A	00MW0552A-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	117.5	ND	0.004	0.01	µg/L	U	PB-E181801
00MW0552B	00MW0552B-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	86.5	ND	0.0022	0.01	µg/L	U	PB-E137002
00MW0552B	00MW0552B-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	86.5	ND	0.004	0.01	µg/L	U	PB-E181802
36EW4010	36EW4010-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19	ND	0.0022	0.01	µg/L	U	PB-J000501
36EW4010	36EW4010-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19	0.005	0.0022	0.01	µg/L	J	PB-J002601
36EW4010	36EW4010-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19	0.006	0.0022	0.01	µg/L	J	PB-E143801
36EW4010	36EW4010-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19	0.092	0.004	0.01	µg/L		PB-E181001
36EW4020	36EW4020-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	0.005	0.0022	0.01	µg/L	J	PB-J000502
36EW4020	36EW4020-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J002602
36EW4020	36EW4020-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-E143802
36EW4020	36EW4020-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.004	0.01	µg/L	U	PB-E181002
36EW4020	36EW4020-FD	3/24/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.004	0.01	µg/L	U	PB-E181003
36EW4035	36EW4035-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.0022	0.01	µg/L	U	PB-J000503
36EW4035	36EW4035-FD	11/7/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.0022	0.01	µg/L	U	PB-J000504
36EW4035	36EW4035-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.0022	0.01	µg/L	U	PB-J002603
36EW4035	36EW4035-FD	11/26/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.0022	0.01	µg/L	U	PB-J002604
36EW4035	36EW4035-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.0022	0.01	µg/L	U	PB-E143803
36EW4035	36EW4035-FD	12/13/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.0022	0.01	µg/L	U	PB-E143804
36EW4035	36EW4035-	1/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.0022	0.01	µg/L	U	PB-J004703
36EW4035	36EW4035-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.004	0.01	µg/L	U	PB-E181004
36EW4046	36EW4046-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.136	0.0022	0.01	µg/L		PB-J000505
36EW4046	36EW4046-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.025	0.0022	0.01	µg/L		PB-J002605
36EW4046	36EW4046-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.006	0.0022	0.01	µg/L	J	PB-E143805
36EW4046	36EW4046-	1/27/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	ND	0.0022	0.01	µg/L	U	PB-J004601
36EW4046	36EW4046-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	ND	0.004	0.01	µg/L	U	PB-E181005
36EW4054	36EW4054-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	ND	0.0022	0.01	µg/L	U	PB-J000506
36EW4054	36EW4054-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	ND	0.0022	0.01	µg/L	U	PB-J002606
36EW4054	36EW4054-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	ND	0.0022	0.01	µg/L	U	PB-E143806
36EW4054	36EW4054-	1/27/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.006	0.0022	0.01	µg/L	J	PB-J004602
36EW4054	36EW4054-FD	1/27/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	18	0.007	0.0022	0.01	µg/L	J	PB-J004603
36EW4054	36EW4054-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.439	0.008	0.02	µg/L		PB-E181006
36EW4065	36EW4065-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	17.5	1.77	0.022	0.1	µg/L		PB-J000507
36EW4065	36EW4065-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	17.5	0.305	0.0044	0.02	µg/L		PB-J002607
36EW4065	36EW4065-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	17.5	0.027	0.0022	0.01	µg/L		PB-E143807
36EW4065	36EW4065-	1/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	17.5	0.1	0.0022	0.01	µg/L		PB-J005001
36EW4065	36EW4065-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	17.5	ND	0.004	0.01	µg/L	U	PB-E181007
36EW4074	36EW4074-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.017	0.0022	0.01	µg/L		PB-J000601
36EW4074	36EW4074-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.043	0.0022	0.01	µg/L		PB-J002608
36EW4074	36EW4074-	12/18/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.357	0.0044	0.02	µg/L		PB-E147601
36EW4074	36EW4074-	1/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.595	0.011	0.05	µg/L		PB-J004901
36EW4074	36EW4074-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.234	0.008	0.02	µg/L		PB-E181008

Appendix A-1
Analytical Laboratory Results, November 2002-March 2003
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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36EW4082	36EW4082-	11/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.02	0.0022	0.01	µg/L		PB-J001601
36EW4082	36EW4082-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.048	0.0022	0.01	µg/L		PB-J002701
36EW4082	36EW4082-	1/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.832	0.011	0.05	µg/L		PB-J005002
36EW4084	36EW4084-	12/18/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19	0.108	0.0022	0.01	µg/L		PB-E147602
36EW4084	36EW4084-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19	0.012	0.004	0.01	µg/L		PB-E181101
36EW4090	36EW4090-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	0.007	0.0022	0.01	µg/L	J	PB-J000603
36EW4090	36EW4090-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	0.006	0.0022	0.01	µg/L	J	PB-J002702
36EW4090	36EW4090-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	0.006	0.0022	0.01	µg/L	J	PB-J003101
36EW4090	36EW4090-	1/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	0.006	0.0022	0.01	µg/L	J	PB-J005003
36EW4090	36EW4090-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	19.5	ND	0.004	0.01	µg/L	U	PB-E181102
36EW4100	36EW4100-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.016	0.0022	0.01	µg/L		PB-J000604
36EW4100	36EW4100-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.019	0.0022	0.01	µg/L		PB-J002703
36EW4100	36EW4100-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.043	0.0022	0.01	µg/L		PB-J003102
36EW4100	36EW4100-	1/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	1.29	0.022	0.1	µg/L		PB-J005101
36EW4100	36EW4100-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18	0.6	0.02	0.05	µg/L		PB-E181103
36EW4132	36EW4132-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J000605
36EW4132	36EW4132-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J002704
36EW4132	36EW4132-	12/18/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J003401
36EW4132	36EW4132-	1/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J005102
36EW4132	36EW4132-FD	1/28/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J005103
36EW4132	36EW4132-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.004	0.01	µg/L	U	PB-E182302
36EW4132	36EW4132-FD	3/25/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.004	0.01	µg/L	U	PB-E182303
36EW4135	36EW4135-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J000606
36EW4135	36EW4135-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J002705
36EW4135	36EW4135-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J003104
36EW4135	36EW4135-	1/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.0022	0.01	µg/L	U	PB-J005104
36EW4135	36EW4135-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	18.5	ND	0.004	0.01	µg/L	U	PB-E182304
36EW4137	36EW4137-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.063	0.0022	0.01	µg/L		PB-J001101
36EW4137	36EW4137-FD	11/7/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.064	0.0022	0.01	µg/L		PB-J001102
36EW4137	36EW4137-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.724	0.011	0.05	µg/L		PB-J002706
36EW4137	36EW4137-FD	11/26/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.749	0.011	0.05	µg/L		PB-J002707
36EW4137	36EW4137-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.681	0.011	0.05	µg/L		PB-J003105
36EW4137	36EW4137-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.021	0.004	0.01	µg/L		PB-E182305
36EW4149	36EW4149-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.014	0.0022	0.01	µg/L		PB-J001103
36EW4149	36EW4149-	11/26/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.043	0.0022	0.01	µg/L		PB-J002708
36EW4149	36EW4149-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.38	0.0044	0.02	µg/L		PB-J003106
36EW4149	36EW4149-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	11.88	0.14	0.004	0.01	µg/L		PB-E182306
36MW0002	36MW0002-	12/16/02	C200.7	N1	ALUMINUM (TOTAL)	WG	51.46	ND	28	200	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	ALUMINUM (TOTAL)	WG	51.46	ND	28	200	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	ARSENIC (TOTAL)	WG	51.46	7	3.6	10	µg/L	J	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	ARSENIC (TOTAL)	WG	51.46	6.6	3.6	10	µg/L	J	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	BARIUM (TOTAL)	WG	51.46	43.3	0.5	200	µg/L	J	PB-E144801

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	BARIUM (TOTAL)	WG	51.46	34.4	0.5	200	µg/L	J	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	BERYLLIUM (TOTAL)	WG	51.46	ND	0.2	4	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	BERYLLIUM (TOTAL)	WG	51.46	ND	0.1	4	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	CADMIUM (TOTAL)	WG	51.46	ND	0.4	5	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	CADMIUM (TOTAL)	WG	51.46	ND	0.4	5	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	CALCIUM (TOTAL)	WG	51.46	2900	12	5000	µg/L	J	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	CALCIUM (TOTAL)	WG	51.46	2840	12	5000	µg/L	J	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	CHROMIUM (TOTAL)	WG	51.46	ND	1.4	10	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	CHROMIUM (TOTAL)	WG	51.46	ND	1.4	10	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	COBALT (TOTAL)	WG	51.46	3.4	2.2	50	µg/L	J	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	COBALT (TOTAL)	WG	51.46	ND	2.2	50	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	COPPER (TOTAL)	WG	51.46	ND	2.5	25	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	COPPER (TOTAL)	WG	51.46	ND	2.5	25	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	IRON (TOTAL)	WG	51.46	11900	35	100	µg/L		PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	IRON (TOTAL)	WG	51.46	11800	35	100	µg/L		PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	LEAD (TOTAL)	WG	51.46	164	1.5	3	µg/L		PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	LEAD (TOTAL)	WG	51.46	159	1.5	3	µg/L		PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	MAGNESIUM (TOTAL)	WG	51.46	865	22	5000	µg/L	J	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	MAGNESIUM (TOTAL)	WG	51.46	827	22	5000	µg/L	J	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	MANGANESE (TOTAL)	WG	51.46	370	0.6	15	µg/L		PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	MANGANESE (TOTAL)	WG	51.46	365	0.6	15	µg/L		PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	NICKEL (TOTAL)	WG	51.46	2.2	1.8	40	µg/L	J	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	NICKEL (TOTAL)	WG	51.46	ND	1.8	40	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	POTASSIUM (TOTAL)	WG	51.46	1190	160	5000	µg/L	J	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	POTASSIUM (TOTAL)	WG	51.46	1100	160	5000	µg/L	J	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	SELENIUM (TOTAL)	WG	51.46	ND	4.6	5	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	SELENIUM (TOTAL)	WG	51.46	ND	4.6	5	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	SILVER (TOTAL)	WG	51.46	ND	2.4	10	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	SILVER (TOTAL)	WG	51.46	ND	2.4	10	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	SODIUM (TOTAL)	WG	51.46	4930	790	5000	µg/L	J	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	SODIUM (TOTAL)	WG	51.46	4770	790	5000	µg/L	J	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	VANADIUM (TOTAL)	WG	51.46	ND	3.4	50	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	VANADIUM (TOTAL)	WG	51.46	ND	3.4	50	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C200.7	N1	ZINC (TOTAL)	WG	51.46	26.6	0.72	20	µg/L		PB-E144801
36MW0002	36MW0002-FD	12/16/02	C200.7	FD1	ZINC (TOTAL)	WG	51.46	17.7	0.72	20	µg/L	J	PB-E144802
36MW0002	36MW0002-	12/16/02	C204.2	N1	ANTIMONY (TOTAL)	WG	51.46	ND	2.5	6	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C204.2	FD1	ANTIMONY (TOTAL)	WG	51.46	ND	2.5	6	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C245.1	N1	MERCURY (TOTAL)	WG	51.46	ND	0.1	0.2	µg/L	U	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C245.1	FD1	MERCURY (TOTAL)	WG	51.46	ND	0.1	0.2	µg/L	U	PB-E144802
36MW0002	36MW0002-	12/16/02	C279.2	N1	THALLIUM (TOTAL)	WG	51.46	ND	1.4	2	µg/L	UJ	PB-E144801
36MW0002	36MW0002-FD	12/16/02	C279.2	FD1	THALLIUM (TOTAL)	WG	51.46	ND	1.4	2	µg/L	UJ	PB-E144802
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,1,1-TRICHLOROETHANE	WG	51.46	ND	0.528	1	µg/L	U	PB-E144701

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,1,1-TRICHLOROETHANE	WG	51.46	ND	0.528	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,1,2,2-TETRACHLOROETHANE	WG	51.46	ND	0.477	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,1,2,2-TETRACHLOROETHANE	WG	51.46	ND	0.477	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,1,2-TRICHLOROETHANE	WG	51.46	ND	0.4	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,1,2-TRICHLOROETHANE	WG	51.46	ND	0.4	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,1-DICHLOROETHANE	WG	51.46	ND	0.156	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,1-DICHLOROETHANE	WG	51.46	ND	0.156	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,1-DICHLOROETHENE	WG	51.46	ND	0.226	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,1-DICHLOROETHENE	WG	51.46	ND	0.226	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,2,4-TRICHLOROBENZENE	WG	51.46	ND	0.433	2	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,2,4-TRICHLOROBENZENE	WG	51.46	ND	0.433	2	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,2-DIBROMO-3-CHLOROPROPANE	WG	51.46	ND	1.76	2	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,2-DIBROMO-3-CHLOROPROPANE	WG	51.46	ND	1.76	2	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,2-DIBROMOETHANE (EDB)	WG	51.46	ND	0.493	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,2-DIBROMOETHANE (EDB)	WG	51.46	ND	0.493	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,2-DICHLOROBENZENE	WG	51.46	ND	0.305	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,2-DICHLOROBENZENE	WG	51.46	ND	0.305	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,2-DICHLOROETHANE	WG	51.46	ND	0.382	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,2-DICHLOROETHANE	WG	51.46	ND	0.382	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,2-DICHLOROPROPANE	WG	51.46	ND	0.308	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,2-DICHLOROPROPANE	WG	51.46	ND	0.308	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,3-DICHLOROBENZENE	WG	51.46	ND	0.229	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,3-DICHLOROBENZENE	WG	51.46	ND	0.229	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	1,4-DICHLOROBENZENE	WG	51.46	ND	0.38	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	1,4-DICHLOROBENZENE	WG	51.46	ND	0.38	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	BENZENE	WG	51.46	ND	0.216	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	BENZENE	WG	51.46	ND	0.216	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	BROMOCHLOROMETHANE	WG	51.46	ND	0.239	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	BROMOCHLOROMETHANE	WG	51.46	ND	0.239	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	BROMODICHLOROMETHANE	WG	51.46	ND	0.494	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	BROMODICHLOROMETHANE	WG	51.46	ND	0.494	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	BROMOFORM	WG	51.46	ND	0.867	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	BROMOFORM	WG	51.46	ND	0.867	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	BROMOMETHANE	WG	51.46	ND	0.422	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	BROMOMETHANE	WG	51.46	ND	0.422	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	CARBON TETRACHLORIDE	WG	51.46	ND	0.618	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	CARBON TETRACHLORIDE	WG	51.46	ND	0.618	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	CHLOROBENZENE	WG	51.46	ND	0.198	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	CHLOROBENZENE	WG	51.46	ND	0.198	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	CHLOROETHANE	WG	51.46	ND	0.646	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	CHLOROETHANE	WG	51.46	ND	0.646	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	CHLOROFORM	WG	51.46	ND	0.336	1	µg/L	U	PB-E144701

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36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	CHLOROFORM	WG	51.46	ND	0.336	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	CHLOROMETHANE	WG	51.46	ND	0.486	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	CHLOROMETHANE	WG	51.46	ND	0.486	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	CIS-1,2-DICHLOROETHENE	WG	51.46	ND	0.347	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	CIS-1,2-DICHLOROETHENE	WG	51.46	ND	0.347	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	CIS-1,3-DICHLOROPROPENE	WG	51.46	ND	0.262	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	CIS-1,3-DICHLOROPROPENE	WG	51.46	ND	0.262	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	DIBROMOCHLOROMETHANE	WG	51.46	ND	0.366	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	DIBROMOCHLOROMETHANE	WG	51.46	ND	0.366	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	ETHYLBENZENE	WG	51.46	64.6	0.178	1	µg/L		PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	ETHYLBENZENE	WG	51.46	66.9	0.178	1	µg/L		PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	M,P-XYLENE (SUM OF ISOMERS)	WG	51.46	81.6	0.525	2	µg/L		PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	M,P-XYLENE (SUM OF ISOMERS)	WG	51.46	87.1	0.525	2	µg/L		PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	METHYL TERT-BUTYL ETHER (MTBE)	WG	51.46	ND	0.42	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	METHYL TERT-BUTYL ETHER (MTBE)	WG	51.46	ND	0.42	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	METHYLENE CHLORIDE	WG	51.46	ND	0.429	2	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	METHYLENE CHLORIDE	WG	51.46	ND	0.429	2	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	51.46	19.6	0.142	1	µg/L		PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	51.46	20.3	0.142	1	µg/L		PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	STYRENE	WG	51.46	ND	0.156	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	STYRENE	WG	51.46	ND	0.156	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	TETRACHLOROETHENE(PCE)	WG	51.46	0.2	0.146	1	µg/L	J	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	TETRACHLOROETHENE(PCE)	WG	51.46	0.23	0.146	1	µg/L	J	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	TOLUENE	WG	51.46	3.47	0.185	1	µg/L		PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	TOLUENE	WG	51.46	3.53	0.185	1	µg/L		PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	TRANS-1,2-DICHLOROETHENE	WG	51.46	ND	0.271	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	TRANS-1,2-DICHLOROETHENE	WG	51.46	ND	0.271	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	TRANS-1,3-DICHLOROPROPENE	WG	51.46	ND	0.27	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	TRANS-1,3-DICHLOROPROPENE	WG	51.46	ND	0.27	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	TRICHLOROETHENE(TCE)	WG	51.46	ND	0.138	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	TRICHLOROETHENE(TCE)	WG	51.46	ND	0.138	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	12/16/02	SW8260	N1	VINYL CHLORIDE	WG	51.46	ND	0.413	1	µg/L	U	PB-E144701
36MW0002	36MW0002-FD	12/16/02	SW8260	FD1	VINYL CHLORIDE	WG	51.46	ND	0.413	1	µg/L	U	PB-E144702
36MW0002	36MW0002-	3/20/03	C200.7	N1	ALUMINUM (TOTAL)	WG	51.46	ND	28	200	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	ALUMINUM (TOTAL)	WG	51.46	ND	28	200	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	ARSENIC (TOTAL)	WG	51.46	4.7	2.6	10	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	ARSENIC (TOTAL)	WG	51.46	4.5	2.6	10	µg/L	J	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	BARIUM (TOTAL)	WG	51.46	25.6	0.4	200	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	BARIUM (TOTAL)	WG	51.46	23	0.4	200	µg/L	J	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	BERYLLIUM (TOTAL)	WG	51.46	ND	0.1	4	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	BERYLLIUM (TOTAL)	WG	51.46	ND	0.1	4	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	CADMIUM (TOTAL)	WG	51.46	ND	0.3	5	µg/L	U	PB-E180201

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	CADMIUM (TOTAL)	WG	51.46	ND	0.3	5	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	CALCIUM (TOTAL)	WG	51.46	2640	26	5000	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	CALCIUM (TOTAL)	WG	51.46	2660	26	5000	µg/L	J	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	CHROMIUM (TOTAL)	WG	51.46	1.4	1	10	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	CHROMIUM (TOTAL)	WG	51.46	ND	1	10	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	COBALT (TOTAL)	WG	51.46	0.95	0.8	50	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	COBALT (TOTAL)	WG	51.46	ND	0.8	50	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	COPPER (TOTAL)	WG	51.46	ND	1.4	25	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	COPPER (TOTAL)	WG	51.46	ND	1.4	25	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	IRON (TOTAL)	WG	51.46	12800	18	100	µg/L		PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	IRON (TOTAL)	WG	51.46	13200	18	100	µg/L		PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	LEAD (TOTAL)	WG	51.46	168	1.6	3	µg/L		PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	LEAD (TOTAL)	WG	51.46	170	1.6	3	µg/L		PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	MAGNESIUM (TOTAL)	WG	51.46	957	30	5000	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	MAGNESIUM (TOTAL)	WG	51.46	965	30	5000	µg/L	J	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	MANGANESE (TOTAL)	WG	51.46	375	0.7	15	µg/L		PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	MANGANESE (TOTAL)	WG	51.46	388	0.7	15	µg/L		PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	NICKEL (TOTAL)	WG	51.46	1.6	0.9	40	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	NICKEL (TOTAL)	WG	51.46	ND	0.9	40	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	POTASSIUM (TOTAL)	WG	51.46	998	80	5000	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	POTASSIUM (TOTAL)	WG	51.46	1020	80	5000	µg/L	J	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	SELENIUM (TOTAL)	WG	51.46	ND	2.4	5	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	SELENIUM (TOTAL)	WG	51.46	ND	2.4	5	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	SILVER (TOTAL)	WG	51.46	ND	1.4	10	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	SILVER (TOTAL)	WG	51.46	ND	1.4	10	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	SODIUM (TOTAL)	WG	51.46	4070	730	5000	µg/L	J	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	SODIUM (TOTAL)	WG	51.46	4250	730	5000	µg/L	J	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	VANADIUM (TOTAL)	WG	51.46	ND	1.2	50	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	VANADIUM (TOTAL)	WG	51.46	ND	1.2	50	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C200.7	N1	ZINC (TOTAL)	WG	51.46	ND	9	26	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C200.7	FD1	ZINC (TOTAL)	WG	51.46	ND	6	26	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C204.2	N1	ANTIMONY (TOTAL)	WG	51.46	ND	2.9	6	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C204.2	FD1	ANTIMONY (TOTAL)	WG	51.46	ND	2.9	6	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C245.1	N1	MERCURY (TOTAL)	WG	51.46	ND	0.1	0.2	µg/L	U	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C245.1	FD1	MERCURY (TOTAL)	WG	51.46	ND	0.1	0.2	µg/L	U	PB-E180202
36MW0002	36MW0002-	3/20/03	C279.2	N1	THALLIUM (TOTAL)	WG	51.46	ND	1.4	2	µg/L	UJ	PB-E180201
36MW0002	36MW0002-FD	3/20/03	C279.2	FD1	THALLIUM (TOTAL)	WG	51.46	ND	1.4	2	µg/L	UJ	PB-E180202
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,1,1-TRICHLOROETHANE	WG	51.46	ND	0.98	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,1,1-TRICHLOROETHANE	WG	51.46	ND	0.98	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,1,2,2-TETRACHLOROETHANE	WG	51.46	ND	1.38	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,1,2,2-TETRACHLOROETHANE	WG	51.46	ND	1.38	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,1,2-TRICHLOROETHANE	WG	51.46	ND	1.5	5	µg/L	U	PB-E180101

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,1,2-TRICHLOROETHANE	WG	51.46	ND	1.5	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,1-DICHLOROETHANE	WG	51.46	ND	0.665	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,1-DICHLOROETHANE	WG	51.46	ND	0.665	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,1-DICHLOROETHENE	WG	51.46	ND	1.14	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,1-DICHLOROETHENE	WG	51.46	ND	1.14	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,2,4-TRICHLOROBENZENE	WG	51.46	ND	0.705	10	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,2,4-TRICHLOROBENZENE	WG	51.46	ND	0.705	10	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,2-DIBROMO-3-CHLOROPROPANE	WG	51.46	ND	4.06	10	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,2-DIBROMO-3-CHLOROPROPANE	WG	51.46	ND	4.06	10	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,2-DIBROMOETHANE (EDB)	WG	51.46	ND	1.84	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,2-DIBROMOETHANE (EDB)	WG	51.46	ND	1.84	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,2-DICHLOROBENZENE	WG	51.46	ND	0.965	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,2-DICHLOROBENZENE	WG	51.46	ND	0.965	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,2-DICHLOROETHANE	WG	51.46	ND	1.18	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,2-DICHLOROETHANE	WG	51.46	ND	1.18	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,2-DICHLOROPROPANE	WG	51.46	ND	1.2	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,2-DICHLOROPROPANE	WG	51.46	ND	1.2	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,3-DICHLOROBENZENE	WG	51.46	ND	0.87	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,3-DICHLOROBENZENE	WG	51.46	ND	0.87	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	1,4-DICHLOROBENZENE	WG	51.46	ND	1.22	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	1,4-DICHLOROBENZENE	WG	51.46	ND	1.22	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	BENZENE	WG	51.46	ND	0.655	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	BENZENE	WG	51.46	ND	0.655	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	BROMOCHLOROMETHANE	WG	51.46	ND	1.09	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	BROMOCHLOROMETHANE	WG	51.46	ND	1.09	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	BROMODICHLOROMETHANE	WG	51.46	ND	0.655	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	BROMODICHLOROMETHANE	WG	51.46	ND	0.655	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	BROMOFORM	WG	51.46	ND	1.18	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	BROMOFORM	WG	51.46	ND	1.18	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	BROMOMETHANE	WG	51.46	ND	1.18	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	BROMOMETHANE	WG	51.46	ND	1.18	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	CARBON TETRACHLORIDE	WG	51.46	ND	0.925	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	CARBON TETRACHLORIDE	WG	51.46	ND	0.925	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	CHLOROBENZENE	WG	51.46	ND	0.79	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	CHLOROBENZENE	WG	51.46	ND	0.79	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	CHLOROETHANE	WG	51.46	ND	1.44	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	CHLOROETHANE	WG	51.46	ND	1.44	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	CHLOROFORM	WG	51.46	ND	0.525	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	CHLOROFORM	WG	51.46	ND	0.525	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	CHLOROMETHANE	WG	51.46	ND	0.895	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	CHLOROMETHANE	WG	51.46	ND	0.895	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	CIS-1,2-DICHLOROETHENE	WG	51.46	ND	0.89	5	µg/L	U	PB-E180101

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36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	CIS-1,2-DICHLOROETHENE	WG	51.46	ND	0.89	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	CIS-1,3-DICHLOROPROPENE	WG	51.46	ND	0.82	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	CIS-1,3-DICHLOROPROPENE	WG	51.46	ND	0.82	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	DIBROMOCHLOROMETHANE	WG	51.46	ND	1.46	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	DIBROMOCHLOROMETHANE	WG	51.46	ND	1.46	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	ETHYLBENZENE	WG	51.46	181	0.965	5	µg/L		PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	ETHYLBENZENE	WG	51.46	206	0.965	5	µg/L		PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	M,P-XYLENE (SUM OF ISOMERS)	WG	51.46	341	1.52	10	µg/L		PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	M,P-XYLENE (SUM OF ISOMERS)	WG	51.46	351	1.52	10	µg/L		PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	METHYL TERT-BUTYL ETHER (MTBE)	WG	51.46	ND	0.99	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	METHYL TERT-BUTYL ETHER (MTBE)	WG	51.46	ND	0.99	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	METHYLENE CHLORIDE	WG	51.46	ND	0.935	10	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	METHYLENE CHLORIDE	WG	51.46	ND	0.935	10	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	51.46	155	0.94	5	µg/L		PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	51.46	167	0.94	5	µg/L		PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	STYRENE	WG	51.46	ND	0.805	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	STYRENE	WG	51.46	ND	0.805	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	TETRACHLOROETHENE(PCE)	WG	51.46	ND	0.685	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	TETRACHLOROETHENE(PCE)	WG	51.46	ND	0.685	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	TOLUENE	WG	51.46	108	1.36	5	µg/L		PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	TOLUENE	WG	51.46	115	1.36	5	µg/L		PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	TRANS-1,2-DICHLOROETHENE	WG	51.46	ND	0.985	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	TRANS-1,2-DICHLOROETHENE	WG	51.46	ND	0.985	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	TRANS-1,3-DICHLOROPROPENE	WG	51.46	ND	1.14	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	TRANS-1,3-DICHLOROPROPENE	WG	51.46	ND	1.14	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	TRICHLOROETHENE(TCE)	WG	51.46	ND	1.02	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	TRICHLOROETHENE(TCE)	WG	51.46	ND	1.02	5	µg/L	U	PB-E180102
36MW0002	36MW0002-	3/20/03	SW8260	N1	VINYL CHLORIDE	WG	51.46	ND	1.02	5	µg/L	U	PB-E180101
36MW0002	36MW0002-FD	3/20/03	SW8260	FD1	VINYL CHLORIDE	WG	51.46	ND	1.02	5	µg/L	U	PB-E180102
36MW0007	36MW0007-	12/16/02	C200.7	N1	ALUMINUM (TOTAL)	WG	51	ND	31.4	225	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	ARSENIC (TOTAL)	WG	51	6.8	3.6	10	µg/L	J	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	BARIUM (TOTAL)	WG	51	19.1	0.5	200	µg/L	J	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	BERYLLIUM (TOTAL)	WG	51	ND	0.1	4	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	CADMIUM (TOTAL)	WG	51	ND	0.4	5	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	CALCIUM (TOTAL)	WG	51	2290	12	5000	µg/L	J	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	CHROMIUM (TOTAL)	WG	51	ND	1.4	10	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	COBALT (TOTAL)	WG	51	2.7	2.2	50	µg/L	J	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	COPPER (TOTAL)	WG	51	ND	2.5	25	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	IRON (TOTAL)	WG	51	8110	35	100	µg/L		PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	LEAD (TOTAL)	WG	51	207	1.5	3	µg/L		PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	MAGNESIUM (TOTAL)	WG	51	1510	22	5000	µg/L	J	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	MANGANESE (TOTAL)	WG	51	336	0.6	15	µg/L		PB-E144803

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0007	36MW0007-	12/16/02	C200.7	N1	NICKEL (TOTAL)	WG	51	ND	1.8	40	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	POTASSIUM (TOTAL)	WG	51	1000	160	5000	µg/L	J	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	SELENIUM (TOTAL)	WG	51	ND	4.6	5	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	SILVER (TOTAL)	WG	51	ND	2.4	10	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	SODIUM (TOTAL)	WG	51	3640	790	5000	µg/L	J	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	VANADIUM (TOTAL)	WG	51	ND	3.4	50	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C200.7	N1	ZINC (TOTAL)	WG	51	ND	3	20	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C204.2	N1	ANTIMONY (TOTAL)	WG	51	ND	2.5	6	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C245.1	N1	MERCURY (TOTAL)	WG	51	ND	0.1	0.2	µg/L	U	PB-E144803
36MW0007	36MW0007-	12/16/02	C279.2	N1	THALLIUM (TOTAL)	WG	51	ND	1.4	2	µg/L	UJ	PB-E144803
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,1,1-TRICHLOROETHANE	WG	51	ND	0.528	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,1,2,2-TETRACHLOROETHANE	WG	51	ND	0.477	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,1,2-TRICHLOROETHANE	WG	51	ND	0.4	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,1-DICHLOROETHANE	WG	51	ND	0.156	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,1-DICHLOROETHENE	WG	51	ND	0.226	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,2,4-TRICHLOROBENZENE	WG	51	ND	0.433	2	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,2-DIBROMO-3-CHLOROPROPANE	WG	51	ND	1.76	2	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,2-DIBROMOETHANE (EDB)	WG	51	ND	0.493	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,2-DICHLOROBENZENE	WG	51	ND	0.305	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,2-DICHLOROETHANE	WG	51	ND	0.382	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,2-DICHLOROPROPANE	WG	51	ND	0.308	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,3-DICHLOROBENZENE	WG	51	ND	0.229	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	1,4-DICHLOROBENZENE	WG	51	ND	0.38	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	BENZENE	WG	51	ND	0.216	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	BROMOCHLOROMETHANE	WG	51	ND	0.239	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	BROMODICHLOROMETHANE	WG	51	ND	0.494	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	BROMOFORM	WG	51	ND	0.867	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	BROMOMETHANE	WG	51	ND	0.422	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	CARBON TETRACHLORIDE	WG	51	ND	0.618	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	CHLOROBENZENE	WG	51	ND	0.198	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	CHLOROETHANE	WG	51	ND	0.646	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	CHLOROFORM	WG	51	ND	0.336	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	CHLOROMETHANE	WG	51	ND	0.486	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	CIS-1,2-DICHLOROETHENE	WG	51	ND	0.347	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	CIS-1,3-DICHLOROPROPENE	WG	51	ND	0.262	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	DIBROMOCHLOROMETHANE	WG	51	ND	0.366	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	ETHYLBENZENE	WG	51	58.7	0.178	1	µg/L		PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	M,P-XYLENE (SUM OF ISOMERS)	WG	51	76	0.525	2	µg/L		PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	METHYL TERT-BUTYL ETHER (MTBE)	WG	51	ND	0.42	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	METHYLENE CHLORIDE	WG	51	ND	0.429	2	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	51	28.8	0.142	1	µg/L		PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	STYRENE	WG	51	ND	0.156	1	µg/L	U	PB-E144703

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36MW0007	36MW0007-	12/16/02	SW8260	N1	TETRACHLOROETHENE(PCE)	WG	51	ND	0.146	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	TOLUENE	WG	51	ND	0.185	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	TRANS-1,2-DICHLOROETHENE	WG	51	ND	0.271	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	TRANS-1,3-DICHLOROPROPENE	WG	51	ND	0.27	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	TRICHLOROETHENE(TCE)	WG	51	ND	0.138	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	12/16/02	SW8260	N1	VINYL CHLORIDE	WG	51	ND	0.413	1	µg/L	U	PB-E144703
36MW0007	36MW0007-	3/20/03	C200.7	N1	ALUMINUM (TOTAL)	WG	51	ND	40.9	200	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	ARSENIC (TOTAL)	WG	51	8.9	2.6	10	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	BARIUM (TOTAL)	WG	51	33.9	0.4	200	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	BERYLLIUM (TOTAL)	WG	51	ND	0.1	4	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	CADMIUM (TOTAL)	WG	51	ND	0.3	5	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	CALCIUM (TOTAL)	WG	51	2630	26	5000	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	CHROMIUM (TOTAL)	WG	51	1	1	10	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	COBALT (TOTAL)	WG	51	5.8	0.8	50	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	COPPER (TOTAL)	WG	51	1.8	1.4	25	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	IRON (TOTAL)	WG	51	6710	18	100	µg/L		PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	LEAD (TOTAL)	WG	51	289	1.6	3	µg/L		PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	MAGNESIUM (TOTAL)	WG	51	1250	30	5000	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	MANGANESE (TOTAL)	WG	51	300	0.7	15	µg/L		PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	NICKEL (TOTAL)	WG	51	7.5	0.9	40	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	POTASSIUM (TOTAL)	WG	51	1200	80	5000	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	SELENIUM (TOTAL)	WG	51	ND	2.4	5	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	SILVER (TOTAL)	WG	51	ND	1.4	10	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	SODIUM (TOTAL)	WG	51	4550	730	5000	µg/L	J	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	VANADIUM (TOTAL)	WG	51	ND	1.2	50	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C200.7	N1	ZINC (TOTAL)	WG	51	ND	7.5	26	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C204.2	N1	ANTIMONY (TOTAL)	WG	51	ND	2.9	6	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C245.1	N1	MERCURY (TOTAL)	WG	51	ND	0.1	0.2	µg/L	U	PB-E180203
36MW0007	36MW0007-	3/20/03	C279.2	N1	THALLIUM (TOTAL)	WG	51	ND	1.4	2	µg/L	UJ	PB-E180203
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,1,1-TRICHLOROETHANE	WG	51	ND	0.196	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,1,2,2-TETRACHLOROETHANE	WG	51	ND	0.276	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,1,2-TRICHLOROETHANE	WG	51	ND	0.299	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,1-DICHLOROETHANE	WG	51	ND	0.133	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,1-DICHLOROETHENE	WG	51	ND	0.227	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,2,4-TRICHLOROBENZENE	WG	51	ND	0.141	2	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,2-DIBROMO-3-CHLOROPROPANE	WG	51	ND	0.812	2	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,2-DIBROMOETHANE (EDB)	WG	51	ND	0.368	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,2-DICHLOROBENZENE	WG	51	ND	0.193	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,2-DICHLOROETHANE	WG	51	ND	0.236	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,2-DICHLOROPROPANE	WG	51	ND	0.239	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,3-DICHLOROBENZENE	WG	51	ND	0.174	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	1,4-DICHLOROBENZENE	WG	51	ND	0.244	1	µg/L	U	PB-E180103

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36MW0007	36MW0007-	3/20/03	SW8260	N1	BENZENE	WG	51	ND	0.131	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	BROMOCHLOROMETHANE	WG	51	ND	0.218	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	BROMODICHLOROMETHANE	WG	51	ND	0.131	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	BROMOFORM	WG	51	ND	0.236	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	BROMOMETHANE	WG	51	ND	0.236	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	CARBON TETRACHLORIDE	WG	51	ND	0.185	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	CHLOROENZENE	WG	51	ND	0.158	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	CHLOROETHANE	WG	51	ND	0.288	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	CHLOROFORM	WG	51	1.7	0.105	1	µg/L		PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	CHLOROMETHANE	WG	51	ND	0.179	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	CIS-1,2-DICHLOROETHENE	WG	51	ND	0.178	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	CIS-1,3-DICHLOROPROPENE	WG	51	ND	0.164	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	DIBROMOCHLOROMETHANE	WG	51	ND	0.293	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	ETHYLBENZENE	WG	51	44.4	0.193	1	µg/L		PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	M,P-XYLENE (SUM OF ISOMERS)	WG	51	80.9	0.305	2	µg/L		PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	METHYL TERT-BUTYL ETHER (MTBE)	WG	51	ND	0.198	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	METHYLENE CHLORIDE	WG	51	ND	0.187	2	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	51	24.8	0.188	1	µg/L		PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	STYRENE	WG	51	ND	0.161	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	TETRACHLOROETHENE(PCE)	WG	51	ND	0.137	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	TOLUENE	WG	51	0.94	0.271	1	µg/L	J	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	TRANS-1,2-DICHLOROETHENE	WG	51	ND	0.197	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	TRANS-1,3-DICHLOROPROPENE	WG	51	ND	0.227	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	TRICHLOROETHENE(TCE)	WG	51	ND	0.203	1	µg/L	U	PB-E180103
36MW0007	36MW0007-	3/20/03	SW8260	N1	VINYL CHLORIDE	WG	51	ND	0.204	1	µg/L	U	PB-E180103
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	ALUMINUM (TOTAL)	WG	72.5	ND	35.2	225	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	ARSENIC (TOTAL)	WG	72.5	ND	3.6	10	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	BARIUM (TOTAL)	WG	72.5	10.3	0.5	200	µg/L	J	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	BERYLLIUM (TOTAL)	WG	72.5	ND	0.1	4	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	CADMIUM (TOTAL)	WG	72.5	ND	0.4	5	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	CALCIUM (TOTAL)	WG	72.5	1400	12	5000	µg/L	J	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	CHROMIUM (TOTAL)	WG	72.5	1.8	1.4	10	µg/L	J	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	COBALT (TOTAL)	WG	72.5	ND	2.2	50	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	COPPER (TOTAL)	WG	72.5	ND	2.5	25	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	IRON (TOTAL)	WG	72.5	ND	44.6	625	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	LEAD (TOTAL)	WG	72.5	ND	1.5	3	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	MAGNESIUM (TOTAL)	WG	72.5	1710	22	5000	µg/L	J	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	MANGANESE (TOTAL)	WG	72.5	128	0.6	15	µg/L		PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	NICKEL (TOTAL)	WG	72.5	ND	1.8	40	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	POTASSIUM (TOTAL)	WG	72.5	623	160	5000	µg/L	J	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	SELENIUM (TOTAL)	WG	72.5	ND	4.6	5	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	SILVER (TOTAL)	WG	72.5	ND	2.4	10	µg/L	U	PB-E144804

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	SODIUM (TOTAL)	WG	72.5	4530	790	5000	µg/L	J	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	VANADIUM (TOTAL)	WG	72.5	ND	3.4	50	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C200.7	N1	ZINC (TOTAL)	WG	72.5	ND	3.8	20	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C204.2	N1	ANTIMONY (TOTAL)	WG	72.5	ND	2.5	6	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C245.1	N1	MERCURY (TOTAL)	WG	72.5	ND	0.1	0.2	µg/L	U	PB-E144804
36MW0010A	36MW0010A-	12/16/02	C279.2	N1	THALLIUM (TOTAL)	WG	72.5	ND	1.4	2	µg/L	UJ	PB-E144804
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,1,1-TRICHLOROETHANE	WG	72.5	ND	0.528	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,1,2,2-TETRACHLOROETHANE	WG	72.5	ND	0.477	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,1,2-TRICHLOROETHANE	WG	72.5	ND	0.4	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,1-DICHLOROETHANE	WG	72.5	ND	0.156	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,1-DICHLOROETHENE	WG	72.5	ND	0.226	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,2,4-TRICHLOROBENZENE	WG	72.5	ND	0.433	2	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,2-DIBROMO-3-CHLOROPROPANE	WG	72.5	ND	1.76	2	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,2-DIBROMOETHANE (EDB)	WG	72.5	ND	0.493	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,2-DICHLOROBENZENE	WG	72.5	ND	0.305	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,2-DICHLOROETHANE	WG	72.5	ND	0.382	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,2-DICHLOROPROPANE	WG	72.5	ND	0.308	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,3-DICHLOROBENZENE	WG	72.5	ND	0.229	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	1,4-DICHLOROBENZENE	WG	72.5	ND	0.38	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	BENZENE	WG	72.5	ND	0.216	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	BROMOCHLOROMETHANE	WG	72.5	ND	0.239	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	BROMODICHLOROMETHANE	WG	72.5	ND	0.494	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	BROMOFORM	WG	72.5	ND	0.867	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	BROMOMETHANE	WG	72.5	ND	0.422	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	CARBON TETRACHLORIDE	WG	72.5	ND	0.618	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	CHLOROBENZENE	WG	72.5	ND	0.198	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	CHLOROETHANE	WG	72.5	ND	0.646	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	CHLOROFORM	WG	72.5	ND	0.336	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	CHLOROMETHANE	WG	72.5	ND	0.486	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	CIS-1,2-DICHLOROETHENE	WG	72.5	ND	0.347	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	CIS-1,3-DICHLOROPROPENE	WG	72.5	ND	0.262	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	DIBROMOCHLOROMETHANE	WG	72.5	ND	0.366	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	ETHYLBENZENE	WG	72.5	ND	0.178	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	M,P-XYLENE (SUM OF ISOMERS)	WG	72.5	ND	0.525	2	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	METHYL TERT-BUTYL ETHER (MTBE)	WG	72.5	ND	0.42	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	METHYLENE CHLORIDE	WG	72.5	ND	0.429	2	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	72.5	ND	0.142	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	STYRENE	WG	72.5	ND	0.156	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	TETRACHLOROETHENE(PCE)	WG	72.5	ND	0.146	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	TOLUENE	WG	72.5	ND	0.185	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	TRANS-1,2-DICHLOROETHENE	WG	72.5	ND	0.271	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	TRANS-1,3-DICHLOROPROPENE	WG	72.5	ND	0.27	1	µg/L	U	PB-E144704

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	TRICHLOROETHENE(TCE)	WG	72.5	ND	0.138	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	12/16/02	SW8260	N1	VINYL CHLORIDE	WG	72.5	ND	0.413	1	µg/L	U	PB-E144704
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	ALUMINUM (TOTAL)	WG	72.5	ND	28	200	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	ARSENIC (TOTAL)	WG	72.5	ND	2.6	10	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	BARIUM (TOTAL)	WG	72.5	12.9	0.4	200	µg/L	J	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	BERYLLIUM (TOTAL)	WG	72.5	ND	0.1	4	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	CADMIUM (TOTAL)	WG	72.5	ND	0.3	5	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	CALCIUM (TOTAL)	WG	72.5	1310	26	5000	µg/L	J	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	CHROMIUM (TOTAL)	WG	72.5	ND	1	10	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	COBALT (TOTAL)	WG	72.5	ND	0.8	50	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	COPPER (TOTAL)	WG	72.5	ND	1.4	25	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	IRON (TOTAL)	WG	72.5	ND	18	100	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	LEAD (TOTAL)	WG	72.5	ND	1.6	3	µg/L	UJ	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	MAGNESIUM (TOTAL)	WG	72.5	1740	30	5000	µg/L	J	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	MANGANESE (TOTAL)	WG	72.5	132	0.7	15	µg/L		PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	NICKEL (TOTAL)	WG	72.5	1.2	0.9	40	µg/L	J	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	POTASSIUM (TOTAL)	WG	72.5	659	80	5000	µg/L	J	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	SELENIUM (TOTAL)	WG	72.5	ND	2.4	5	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	SILVER (TOTAL)	WG	72.5	ND	1.4	10	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	SODIUM (TOTAL)	WG	72.5	4980	730	5000	µg/L	J	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	VANADIUM (TOTAL)	WG	72.5	ND	1.2	50	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C200.7	N1	ZINC (TOTAL)	WG	72.5	ND	4.2	26	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C204.2	N1	ANTIMONY (TOTAL)	WG	72.5	ND	2.9	6	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C245.1	N1	MERCURY (TOTAL)	WG	72.5	ND	0.1	0.2	µg/L	U	PB-E180204
36MW0010A	36MW0010A-	3/20/03	C279.2	N1	THALLIUM (TOTAL)	WG	72.5	ND	1.4	2	µg/L	UJ	PB-E180204
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,1,1-TRICHLOROETHANE	WG	72.5	ND	0.196	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,1,2,2-TETRACHLOROETHANE	WG	72.5	ND	0.276	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,1,2-TRICHLOROETHANE	WG	72.5	ND	0.299	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,1-DICHLOROETHANE	WG	72.5	ND	0.133	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,1-DICHLOROETHENE	WG	72.5	ND	0.227	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,2,4-TRICHLOROBENZENE	WG	72.5	ND	0.141	2	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,2-DIBROMO-3-CHLOROPROPANE	WG	72.5	ND	0.812	2	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,2-DIBROMOETHANE (EDB)	WG	72.5	ND	0.368	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,2-DICHLOROBENZENE	WG	72.5	ND	0.193	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,2-DICHLOROETHANE	WG	72.5	ND	0.236	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,2-DICHLOROPROPANE	WG	72.5	ND	0.239	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,3-DICHLOROBENZENE	WG	72.5	ND	0.174	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	1,4-DICHLOROBENZENE	WG	72.5	ND	0.244	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	BENZENE	WG	72.5	ND	0.131	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	BROMOCHLOROMETHANE	WG	72.5	ND	0.218	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	BROMODICHLOROMETHANE	WG	72.5	ND	0.131	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	BROMOFORM	WG	72.5	ND	0.236	1	µg/L	U	PB-E180104

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	BROMOMETHANE	WG	72.5	ND	0.236	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	CARBON TETRACHLORIDE	WG	72.5	ND	0.185	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	CHLORO BENZENE	WG	72.5	ND	0.158	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	CHLOROETHANE	WG	72.5	ND	0.288	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	CHLOROFORM	WG	72.5	0.48	0.105	1	µg/L	J	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	CHLOROMETHANE	WG	72.5	ND	0.179	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	CIS-1,2-DICHLOROETHENE	WG	72.5	ND	0.178	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	CIS-1,3-DICHLOROPROPENE	WG	72.5	ND	0.164	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	DIBROMOCHLOROMETHANE	WG	72.5	ND	0.293	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	ETHYLBENZENE	WG	72.5	ND	0.193	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	M,P-XYLENE (SUM OF ISOMERS)	WG	72.5	ND	0.305	2	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	METHYL TERT-BUTYL ETHER (MTBE)	WG	72.5	ND	0.198	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	METHYLENE CHLORIDE	WG	72.5	ND	0.187	2	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	72.5	ND	0.188	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	STYRENE	WG	72.5	ND	0.161	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	TETRACHLOROETHENE(PCE)	WG	72.5	ND	0.137	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	TOLUENE	WG	72.5	ND	0.271	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	TRANS-1,2-DICHLOROETHENE	WG	72.5	ND	0.197	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	TRANS-1,3-DICHLOROPROPENE	WG	72.5	ND	0.227	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	TRICHLOROETHENE(TCE)	WG	72.5	ND	0.203	1	µg/L	U	PB-E180104
36MW0010A	36MW0010A-	3/20/03	SW8260	N1	VINYL CHLORIDE	WG	72.5	ND	0.204	1	µg/L	U	PB-E180104
36MW0015	36MW0015-	12/16/02	C200.7	N1	ALUMINUM (TOTAL)	WG	128.35	263	28	200	µg/L		PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	ARSENIC (TOTAL)	WG	128.35	ND	3.6	10	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	BARIUM (TOTAL)	WG	128.35	3.3	0.5	200	µg/L	J	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	BERYLLIUM (TOTAL)	WG	128.35	ND	0.1	4	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	CADMIUM (TOTAL)	WG	128.35	ND	0.4	5	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	CALCIUM (TOTAL)	WG	128.35	3140	12	5000	µg/L	J	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	CHROMIUM (TOTAL)	WG	128.35	4.9	1.4	10	µg/L	J	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	COBALT (TOTAL)	WG	128.35	ND	2.2	50	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	COPPER (TOTAL)	WG	128.35	ND	2.5	25	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	IRON (TOTAL)	WG	128.35	353	35	100	µg/L		PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	LEAD (TOTAL)	WG	128.35	ND	1.5	3	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	MAGNESIUM (TOTAL)	WG	128.35	1340	22	5000	µg/L	J	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	MANGANESE (TOTAL)	WG	128.35	33.1	0.6	15	µg/L		PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	NICKEL (TOTAL)	WG	128.35	3.7	1.8	40	µg/L	J	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	POTASSIUM (TOTAL)	WG	128.35	730	160	5000	µg/L	J	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	SELENIUM (TOTAL)	WG	128.35	ND	4.6	5	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	SILVER (TOTAL)	WG	128.35	ND	2.4	10	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	SODIUM (TOTAL)	WG	128.35	7160	790	5000	µg/L		PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	VANADIUM (TOTAL)	WG	128.35	ND	3.4	50	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C200.7	N1	ZINC (TOTAL)	WG	128.35	6.7	0.72	20	µg/L	J	PB-E144805
36MW0015	36MW0015-	12/16/02	C204.2	N1	ANTIMONY (TOTAL)	WG	128.35	ND	2.5	6	µg/L	U	PB-E144805

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0015	36MW0015-	12/16/02	C245.1	N1	MERCURY (TOTAL)	WG	128.35	ND	0.1	0.2	µg/L	U	PB-E144805
36MW0015	36MW0015-	12/16/02	C279.2	N1	THALLIUM (TOTAL)	WG	128.35	ND	1.4	2	µg/L	UJ	PB-E144805
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,1,1-TRICHLOROETHANE	WG	128.35	ND	0.528	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,1,2,2-TETRACHLOROETHANE	WG	128.35	ND	0.477	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,1,2-TRICHLOROETHANE	WG	128.35	ND	0.4	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,1-DICHLOROETHANE	WG	128.35	ND	0.156	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,1-DICHLOROETHENE	WG	128.35	ND	0.226	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,2,4-TRICHLOROBENZENE	WG	128.35	ND	0.433	2	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,2-DIBROMO-3-CHLOROPROPANE	WG	128.35	ND	1.76	2	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,2-DIBROMOETHANE (EDB)	WG	128.35	ND	0.493	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,2-DICHLOROBENZENE	WG	128.35	ND	0.305	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,2-DICHLOROETHANE	WG	128.35	ND	0.382	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,2-DICHLOROPROPANE	WG	128.35	ND	0.308	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,3-DICHLOROBENZENE	WG	128.35	ND	0.229	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	1,4-DICHLOROBENZENE	WG	128.35	ND	0.38	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	BENZENE	WG	128.35	ND	0.216	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	BROMOCHLOROMETHANE	WG	128.35	ND	0.239	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	BROMODICHLOROMETHANE	WG	128.35	ND	0.494	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	BROMOFORM	WG	128.35	ND	0.867	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	BROMOMETHANE	WG	128.35	ND	0.422	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	CARBON TETRACHLORIDE	WG	128.35	ND	0.618	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	CHLOROBENZENE	WG	128.35	ND	0.198	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	CHLOROETHANE	WG	128.35	ND	0.646	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	CHLOROFORM	WG	128.35	ND	0.336	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	CHLOROMETHANE	WG	128.35	ND	0.486	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	CIS-1,2-DICHLOROETHENE	WG	128.35	ND	0.347	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	CIS-1,3-DICHLOROPROPENE	WG	128.35	ND	0.262	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	DIBROMOCHLOROMETHANE	WG	128.35	ND	0.366	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	ETHYLBENZENE	WG	128.35	ND	0.178	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	M,P-XYLENE (SUM OF ISOMERS)	WG	128.35	ND	0.525	2	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	METHYL TERT-BUTYL ETHER (MTBE)	WG	128.35	ND	0.42	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	METHYLENE CHLORIDE	WG	128.35	ND	0.429	2	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	128.35	ND	0.142	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	STYRENE	WG	128.35	ND	0.156	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	TETRACHLOROETHENE(PCE)	WG	128.35	ND	0.146	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	TOLUENE	WG	128.35	ND	0.185	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	TRANS-1,2-DICHLOROETHENE	WG	128.35	ND	0.271	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	TRANS-1,3-DICHLOROPROPENE	WG	128.35	ND	0.27	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	TRICHLOROETHENE(TCE)	WG	128.35	ND	0.138	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	12/16/02	SW8260	N1	VINYL CHLORIDE	WG	128.35	ND	0.413	1	µg/L	U	PB-E144705
36MW0015	36MW0015-	3/20/03	C200.7	N1	ALUMINUM (TOTAL)	WG	128.35	264	28	200	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	ARSENIC (TOTAL)	WG	128.35	ND	2.6	10	µg/L	U	PB-E180205

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0015	36MW0015-	3/20/03	C200.7	N1	BARIUM (TOTAL)	WG	128.35	ND	3.7	200	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	BERYLLIUM (TOTAL)	WG	128.35	ND	0.1	4	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	CADMIUM (TOTAL)	WG	128.35	ND	0.3	5	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	CALCIUM (TOTAL)	WG	128.35	2900	26	5000	µg/L	J	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	CHROMIUM (TOTAL)	WG	128.35	2.9	1	10	µg/L	J	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	COBALT (TOTAL)	WG	128.35	0.96	0.8	50	µg/L	J	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	COPPER (TOTAL)	WG	128.35	ND	1.4	25	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	IRON (TOTAL)	WG	128.35	462	18	100	µg/L		PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	LEAD (TOTAL)	WG	128.35	ND	1.6	3	µg/L	UJ	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	MAGNESIUM (TOTAL)	WG	128.35	1290	30	5000	µg/L	J	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	MANGANESE (TOTAL)	WG	128.35	31	0.7	15	µg/L		PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	NICKEL (TOTAL)	WG	128.35	2.3	0.9	40	µg/L	J	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	POTASSIUM (TOTAL)	WG	128.35	693	80	5000	µg/L	J	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	SELENIUM (TOTAL)	WG	128.35	ND	2.4	5	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	SILVER (TOTAL)	WG	128.35	ND	1.4	10	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	SODIUM (TOTAL)	WG	128.35	7220	730	5000	µg/L		PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	VANADIUM (TOTAL)	WG	128.35	ND	1.2	50	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C200.7	N1	ZINC (TOTAL)	WG	128.35	ND	8.2	26	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C204.2	N1	ANTIMONY (TOTAL)	WG	128.35	ND	2.9	6	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C245.1	N1	MERCURY (TOTAL)	WG	128.35	ND	0.1	0.2	µg/L	U	PB-E180205
36MW0015	36MW0015-	3/20/03	C279.2	N1	THALLIUM (TOTAL)	WG	128.35	ND	1.4	2	µg/L	UJ	PB-E180205
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,1,1-TRICHLOROETHANE	WG	128.35	ND	0.196	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,1,2,2-TETRACHLOROETHANE	WG	128.35	ND	0.276	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,1,2-TRICHLOROETHANE	WG	128.35	ND	0.299	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,1-DICHLOROETHANE	WG	128.35	ND	0.133	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,1-DICHLOROETHENE	WG	128.35	ND	0.227	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,2,4-TRICHLOROBENZENE	WG	128.35	ND	0.141	2	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,2-DIBROMO-3-CHLOROPROPANE	WG	128.35	ND	0.812	2	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,2-DIBROMOETHANE (EDB)	WG	128.35	ND	0.368	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,2-DICHLOROBENZENE	WG	128.35	ND	0.193	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,2-DICHLOROETHANE	WG	128.35	ND	0.236	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,2-DICHLOROPROPANE	WG	128.35	ND	0.239	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,3-DICHLOROBENZENE	WG	128.35	ND	0.174	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	1,4-DICHLOROBENZENE	WG	128.35	ND	0.244	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	BENZENE	WG	128.35	ND	0.131	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	BROMOCHLOROMETHANE	WG	128.35	ND	0.218	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	BROMODICHLOROMETHANE	WG	128.35	ND	0.131	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	BROMOFORM	WG	128.35	ND	0.236	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	BROMOMETHANE	WG	128.35	ND	0.236	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	CARBON TETRACHLORIDE	WG	128.35	ND	0.185	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	CHLOROBENZENE	WG	128.35	ND	0.158	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	CHLOROETHANE	WG	128.35	ND	0.288	1	µg/L	U	PB-E180105

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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36MW0015	36MW0015-	3/20/03	SW8260	N1	CHLOROFORM	WG	128.35	0.32	0.105	1	µg/L	J	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	CHLOROMETHANE	WG	128.35	ND	0.179	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	CIS-1,2-DICHLOROETHENE	WG	128.35	ND	0.178	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	CIS-1,3-DICHLOROPROPENE	WG	128.35	ND	0.164	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	DIBROMOCHLOROMETHANE	WG	128.35	ND	0.293	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	ETHYLBENZENE	WG	128.35	ND	0.193	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	M,P-XYLENE (SUM OF ISOMERS)	WG	128.35	ND	0.305	2	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	METHYL TERT-BUTYL ETHER (MTBE)	WG	128.35	ND	0.198	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	METHYLENE CHLORIDE	WG	128.35	ND	0.187	2	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	O-XYLENE (1,2-DIMETHYLBENZENE)	WG	128.35	ND	0.188	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	STYRENE	WG	128.35	ND	0.161	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	TETRACHLOROETHENE(PCE)	WG	128.35	ND	0.137	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	TOLUENE	WG	128.35	ND	0.271	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	TRANS-1,2-DICHLOROETHENE	WG	128.35	ND	0.197	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	TRANS-1,3-DICHLOROPROPENE	WG	128.35	ND	0.227	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	TRICHLOROETHENE(TCE)	WG	128.35	ND	0.203	1	µg/L	U	PB-E180105
36MW0015	36MW0015-	3/20/03	SW8260	N1	VINYL CHLORIDE	WG	128.35	ND	0.204	1	µg/L	U	PB-E180105
36MW0131A	36MW0131A-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	182.5	3.41	0.044	0.2	µg/L		PB-J000801
36MW0131A	36MW0131A-	11/22/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	182.5	5.48	0.088	0.4	µg/L		PB-J002001
36MW0131A	36MW0131A-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	182.5	7.13	0.088	0.4	µg/L		PB-E143201
36MW0131A	36MW0131A-FD	12/12/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	182.5	7.02	0.088	0.4	µg/L		PB-E143202
36MW0131A	36MW0131A-	1/21/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	182.5	7.58	0.088	0.4	µg/L		PB-J004101
36MW0131A	36MW0131A-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	182.5	7.38	0.16	0.4	µg/L		PB-E177601
36MW0131A	36MW0131A-FD	3/14/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	182.5	7.23	0.16	0.4	µg/L		PB-E177602
36MW0131B	36MW0131B-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	136.5	0.06	0.0022	0.01	µg/L		PB-J000802
36MW0131B	36MW0131B-FD	11/6/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	136.5	0.06	0.0022	0.01	µg/L		PB-J000803
36MW0131B	36MW0131B-	11/22/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	136.5	0.057	0.0022	0.01	µg/L		PB-J002002
36MW0131B	36MW0131B-FD	11/22/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	136.5	0.062	0.0022	0.01	µg/L		PB-J002003
36MW0131B	36MW0131B-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	136.5	0.22	0.0044	0.02	µg/L		PB-E143203
36MW0131B	36MW0131B-	1/21/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	136.5	0.745	0.011	0.05	µg/L		PB-J004102
36MW0131B	36MW0131B-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	136.5	5.89	0.16	0.4	µg/L		PB-E177603
36MW0131C	36MW0131C-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	87.5	ND	0.0022	0.01	µg/L	U	PB-J000804
36MW0131C	36MW0131C-	11/22/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	87.5	ND	0.0022	0.01	µg/L	U	PB-J002004
36MW0131C	36MW0131C-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	87.5	ND	0.0022	0.01	µg/L	U	PB-E143204
36MW0131C	36MW0131C-	1/21/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	87.5	ND	0.0022	0.01	µg/L	U	PB-J004103
36MW0131C	36MW0131C-FD	1/21/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	87.5	ND	0.0022	0.01	µg/L	U	PB-J004104
36MW0131C	36MW0131C-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	87.5	ND	0.004	0.01	µg/L	U	PB-E177604
36MW0132A	36MW0132A-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	187.5	0.225	0.0022	0.01	µg/L		PB-J000702
36MW0132A	36MW0132A-	11/22/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	187.5	0.175	0.0022	0.01	µg/L		PB-J002101
36MW0132A	36MW0132A-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	187.5	0.186	0.0022	0.01	µg/L		PB-E143501
36MW0132A	36MW0132A-	1/23/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	187.5	0.339	0.0044	0.02	µg/L		PB-J004301
36MW0132A	36MW0132A-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	187.5	0.224	0.004	0.01	µg/L		PB-E177802

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36MW0132B	36MW0132B-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	1.81	0.022	0.1	µg/L		PB-J000703
36MW0132B	36MW0132B-	11/22/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	2.08	0.022	0.1	µg/L		PB-J002102
36MW0132B	36MW0132B-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	2.43	0.044	0.2	µg/L		PB-E143502
36MW0132B	36MW0132B-	1/23/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	3	0.044	0.2	µg/L		PB-J004302
36MW0132B	36MW0132B-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	2.67	0.08	0.2	µg/L		PB-E177803
36MW0132C	36MW0132C-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	80.5	0.272	0.0044	0.02	µg/L		PB-J000704
36MW0132C	36MW0132C-	11/22/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	80.5	0.264	0.0044	0.02	µg/L		PB-J002103
36MW0132C	36MW0132C-	12/13/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	80.5	0.251	0.0022	0.01	µg/L		PB-E143503
36MW0132C	36MW0132C-	1/23/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	80.5	0.276	0.0044	0.02	µg/L		PB-J004303
36MW0132C	36MW0132C-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	80.5	0.16	0.004	0.01	µg/L		PB-E177804
36MW0133	36MW0133-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	57.5	ND	0.0022	0.01	µg/L	U	PB-J001001
36MW0133	36MW0133-	11/22/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	57.5	ND	0.0022	0.01	µg/L	U	PB-J002104
36MW0133	36MW0133-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	57.5	ND	0.0022	0.01	µg/L	U	PB-E144501
36MW0133	36MW0133-FD	12/16/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	57.5	ND	0.0022	0.01	µg/L	U	PB-E144502
36MW0133	36MW0133-	1/29/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	57.5	ND	0.0022	0.01	µg/L	U	PB-J004801
36MW0133	36MW0133-	3/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	57.5	ND	0.004	0.01	µg/L	U	PB-E183701
36MW0135	36MW0135-	11/8/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	177.5	ND	0.0022	0.01	µg/L	U	PB-J001401
36MW0135	36MW0135-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	177.5	ND	0.0022	0.01	µg/L	U	PB-J002302
36MW0135	36MW0135-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	177.5	ND	0.0022	0.01	µg/L	U	PB-E144503
36MW0135	36MW0135-	1/30/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	177.5	ND	0.0022	0.01	µg/L	U	PB-J005201
36MW0135	36MW0135-FD	1/30/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	177.5	ND	0.0022	0.01	µg/L	U	PB-J005202
36MW0135	36MW0135-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	177.5	ND	0.004	0.01	µg/L	U	PB-E182102
36MW0136	36MW0136-	11/8/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.74	0.018	0.0022	0.01	µg/L		PB-J001402
36MW0136	36MW0136-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.74	0.027	0.0022	0.01	µg/L		PB-J002801
36MW0136	36MW0136-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.74	0.031	0.0022	0.01	µg/L		PB-E144301
36MW0136	36MW0136-	1/22/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.74	0.056	0.0022	0.01	µg/L		PB-J004202
36MW0136	36MW0136-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.74	0.086	0.004	0.01	µg/L		PB-E182201
36MW0136	36MW0136-FD	3/25/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	147.74	0.083	0.004	0.01	µg/L		PB-E182202
36MW0137	36MW0137-	12/10/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	108.5	0.101	0.0022	0.01	µg/L		PB-E141501
36MW0137	36MW0137-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	108.5	0.117	0.004	0.01	µg/L		PB-E182203
36MW0139	36MW0139-	12/10/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	ND	0.0022	0.01	µg/L	U	PB-E141502
36MW0139	36MW0139-	3/26/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	ND	0.004	0.01	µg/L	U	PB-E183601
36MW0140	36MW0140-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	ND	0.0022	0.01	µg/L	U	PB-J001201
36MW0140	36MW0140-FD	11/7/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	137.5	ND	0.0022	0.01	µg/L	U	PB-J001202
36MW0140	36MW0140-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	ND	0.0022	0.01	µg/L	U	PB-J002303
36MW0140	36MW0140-FD	11/25/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	137.5	ND	0.0022	0.01	µg/L	U	PB-J002304
36MW0140	36MW0140-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	ND	0.0022	0.01	µg/L	U	PB-E144401
36MW0140	36MW0140-FD	12/16/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	137.5	ND	0.0022	0.01	µg/L	U	PB-E144402
36MW0140	36MW0140-	1/29/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	ND	0.0022	0.01	µg/L	U	PB-J004804
36MW0140	36MW0140-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	137.5	ND	0.004	0.01	µg/L	U	PB-E182205
36MW0141	36MW0141-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	217.5	ND	0.0022	0.01	µg/L	U	PB-E137003
36MW0141	36MW0141-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	217.5	ND	0.004	0.01	µg/L	U	PB-E182206

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36MW0143	36MW0143-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	167.5	ND	0.0022	0.01	µg/L	U	PB-E143101
36MW0143	36MW0143-	3/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	167.5	ND	0.004	0.01	µg/L	U	PB-E183102
36MW0501	36MW0501-	12/9/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	ND	0.0022	0.01	µg/L	U	PB-E138203
36MW0501	36MW0501-	3/21/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	ND	0.004	0.01	µg/L	U	PB-E181501
36MW0503A	36MW0503A-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	192.5	0.915	0.011	0.05	µg/L		PB-E137102
36MW0503A	36MW0503A-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	192.5	0.867	0.02	0.05	µg/L		PB-E177605
36MW0503B	36MW0503B-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	0.053	0.0022	0.01	µg/L		PB-E137103
36MW0503B	36MW0503B-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	0.046	0.004	0.01	µg/L		PB-E177606
36MW0503C	36MW0503C-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	117.5	0.014	0.0022	0.01	µg/L		PB-E137104
36MW0503C	36MW0503C-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	117.5	0.013	0.004	0.01	µg/L		PB-E177607
36MW0503C	36MW0503C-FD	3/14/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	117.5	0.012	0.004	0.01	µg/L		PB-E177608
36MW0504	36MW0504-	12/30/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	179.5	ND	0.0022	0.01	µg/L	U	PB-E151101
36MW0603A	36MW0603A-	12/30/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	197.5	0.153	0.0022	0.01	µg/L		PB-E151102
36MW0603B	36MW0603B-	12/30/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	0.005	0.0022	0.01	µg/L	J	PB-E151103
36MW0604	36MW0604-	12/30/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	197.5	ND	0.0022	0.01	µg/L	U	PB-E151104
36MW1001A	36MW1001A-	11/8/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	ND	0.0022	0.01	µg/L	U	PB-J000901
36MW1001A	36MW1001A-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	ND	0.0022	0.01	µg/L	U	PB-J002305
36MW1001A	36MW1001A-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	ND	0.0022	0.01	µg/L	U	PB-E143701
36MW1001A	36MW1001A-	1/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	ND	0.0022	0.01	µg/L	U	PB-J004401
36MW1001A	36MW1001A-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	147.5	ND	0.004	0.01	µg/L	U	PB-E182105
36MW1001B	36MW1001B-	11/8/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	0.054	0.0022	0.01	µg/L		PB-J000902
36MW1001B	36MW1001B-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	0.032	0.0022	0.01	µg/L		PB-J002306
36MW1001B	36MW1001B-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	0.032	0.0022	0.01	µg/L		PB-E143702
36MW1001B	36MW1001B-	1/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	0.079	0.0022	0.01	µg/L		PB-J004402
36MW1001B	36MW1001B-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	0.051	0.004	0.01	µg/L		PB-E182106
36MW1003A	36MW1003A-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	151.6	ND	0.0022	0.01	µg/L	U	PB-J001203
36MW1003A	36MW1003A-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	151.6	ND	0.0022	0.01	µg/L	U	PB-J002402
36MW1003A	36MW1003A-	12/18/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	151.6	ND	0.0022	0.01	µg/L	U	PB-J003402
36MW1003A	36MW1003A-FD	12/18/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	151.6	ND	0.0022	0.01	µg/L	U	PB-J003403
36MW1003A	36MW1003A-	1/27/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	151.6	0.006	0.0022	0.01	µg/L	J	PB-J004501
36MW1003A	36MW1003A-	3/26/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	151.6	0.006	0.004	0.01	µg/L	J	PB-J005401
36MW1010A	36MW1010A-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	225.5	0.02	0.0022	0.01	µg/L		PB-E143301
36MW1010A	36MW1010A-	3/18/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	225.5	0.065	0.004	0.01	µg/L		PB-E177901
36MW1010A	36MW1010A-FD	3/18/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	225.5	0.068	0.004	0.01	µg/L		PB-E177902
36MW1010B	36MW1010B-	11/7/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	162.5	0.476	0.011	0.05	µg/L		PB-J001204
36MW1010B	36MW1010B-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	162.5	0.48	0.011	0.05	µg/L		PB-J002201
36MW1010B	36MW1010B-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	162.5	0.507	0.011	0.05	µg/L		PB-E143302
36MW1010B	36MW1010B-	1/27/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	162.5	0.576	0.011	0.05	µg/L		PB-J004502
36MW1010B	36MW1010B-	3/18/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	162.5	0.526	0.02	0.05	µg/L		PB-E177903
36MW1010C	36MW1010C-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	83	ND	0.0022	0.01	µg/L	U	PB-E143303
36MW1010C	36MW1010C-	3/18/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	83	ND	0.004	0.01	µg/L	U	PB-E177904
36MW1011A	36MW1011A-	12/5/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	ND	0.0022	0.01	µg/L	U	PB-E137801

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36MW1011A	36MW1011A-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	97.5	ND	0.004	0.01	µg/L	U	PB-E181803
36MW1011B	36MW1011B-	12/5/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	22.5	ND	0.0022	0.01	µg/L	U	PB-E137802
36MW1011B	36MW1011B-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	22.5	ND	0.004	0.01	µg/L	U	PB-E181804
36MW1012A	36MW1012A-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	146.6	ND	0.0022	0.01	µg/L	U	PB-E143102
36MW1012A	36MW1012A-FD	12/12/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	146.6	ND	0.0022	0.01	µg/L	U	PB-E143103
36MW1012A	36MW1012A-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	146.6	ND	0.004	0.01	µg/L	U	PB-E177805
36MW1012B	36MW1012B-	11/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	75.4	0.023	0.0022	0.01	µg/L		PB-J001301
36MW1012B	36MW1012B-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	75.4	0.019	0.0022	0.01	µg/L		PB-J002202
36MW1012B	36MW1012B-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	75.4	0.02	0.0022	0.01	µg/L		PB-E143104
36MW1012B	36MW1012B-	1/27/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	75.4	0.021	0.0022	0.01	µg/L		PB-J004604
36MW1012B	36MW1012B-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	75.4	0.028	0.004	0.01	µg/L		PB-E177806
36MW1012B	36MW1012B-FD	3/14/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	75.4	0.029	0.004	0.01	µg/L		PB-E177807
36MW1012C	36MW1012C-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	20.1	ND	0.0022	0.01	µg/L	U	PB-E143105
36MW1012C	36MW1012C-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	20.1	ND	0.004	0.01	µg/L	U	PB-E177808
36MW1013A	36MW1013A-	12/10/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	167.3	ND	0.0022	0.01	µg/L	U	PB-E141602
36MW1013A	36MW1013A-	3/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	167.3	ND	0.004	0.01	µg/L	U	PB-E178102
36MW1013B	36MW1013B-	12/10/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	127.1	ND	0.0022	0.01	µg/L	U	PB-E141603
36MW1013B	36MW1013B-	3/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	127.1	ND	0.004	0.01	µg/L	U	PB-E178103
36MW1013C	36MW1013C-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	32.5	ND	0.0022	0.01	µg/L	U	PB-E136901
36MW1013C	36MW1013C-	3/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	32.5	ND	0.004	0.01	µg/L	U	PB-E178104
36MW1013D	36MW1013D-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	226.73	ND	0.0022	0.01	µg/L	U	PB-E136902
36MW1013D	36MW1013D-	3/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	226.73	ND	0.004	0.01	µg/L	U	PB-E178105
36MW1013E	36MW1013E-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	191.67	ND	0.0022	0.01	µg/L	U	PB-E136903
36MW1013E	36MW1013E-	3/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	191.67	ND	0.004	0.01	µg/L	U	PB-E178106
36MW1014A	36MW1014A-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	96	ND	0.0022	0.01	µg/L	U	PB-J001002
36MW1014A	36MW1014A-FD	11/6/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	96	ND	0.0022	0.01	µg/L	U	PB-J001003
36MW1014A	36MW1014A-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	96	ND	0.0022	0.01	µg/L	U	PB-J002203
36MW1014A	36MW1014A-FD	11/25/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	96	ND	0.0022	0.01	µg/L	U	PB-J002204
36MW1014A	36MW1014A-	12/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	96	ND	0.0022	0.01	µg/L	U	PB-E138101
36MW1014A	36MW1014A-	1/22/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	96	ND	0.0022	0.01	µg/L	U	PB-J004203
36MW1014A	36MW1014A-	3/21/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	96	ND	0.004	0.01	µg/L	U	PB-E181502
36MW1014B	36MW1014B-	11/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	20.6	0.012	0.0022	0.01	µg/L		PB-J001004
36MW1014B	36MW1014B-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	20.6	0.008	0.0022	0.01	µg/L	J	PB-J002205
36MW1014B	36MW1014B-	12/6/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	20.6	0.008	0.0022	0.01	µg/L	J	PB-E138102
36MW1014B	36MW1014B-	1/22/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	20.6	0.037	0.0022	0.01	µg/L		PB-J004204
36MW1014B	36MW1014B-	3/21/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	20.6	0.12	0.004	0.01	µg/L		PB-E181503
36MW1035	36MW1035-	12/11/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	190	ND	0.0022	0.01	µg/L	U	PB-E143001
36MW1035	36MW1035-	3/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	190	ND	0.004	0.01	µg/L	U	PB-E183801
36MW1036A	36MW1036A-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	260.48	0.007	0.0022	0.01	µg/L	J	PB-E136001
36MW1036A	36MW1036A-	3/20/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	260.48	0.008	0.004	0.01	µg/L	J	PB-E178001
36MW1036B	36MW1036B-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	221.4	0.039	0.0022	0.01	µg/L		PB-E136002
36MW1036B	36MW1036B-	3/20/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	221.4	0.045	0.004	0.01	µg/L		PB-E178002

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36MW1036C	36MW1036C-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	172.63	0.026	0.0022	0.01	µg/L		PB-E136003
36MW1036C	36MW1036C-	3/20/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	172.63	0.031	0.004	0.01	µg/L		PB-E178003
36MW1036C	36MW1036C-FD	3/20/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	172.63	0.032	0.004	0.01	µg/L		PB-E178004
36MW1038A	36MW1038A-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	242.15	0.043	0.0022	0.01	µg/L		PB-E137201
36MW1038A	36MW1038A-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	242.15	0.043	0.004	0.01	µg/L		PB-E177701
36MW1038B	36MW1038B-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	201.5	22.9	0.22	1	µg/L		PB-E137202
36MW1038B	36MW1038B-FD	12/4/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	201.5	20.8	0.22	1	µg/L		PB-E137203
36MW1038B	36MW1038B-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	201.5	16.8	0.4	1	µg/L		PB-E177702
36MW1038C	36MW1038C-	12/4/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	91.5	0.016	0.0022	0.01	µg/L		PB-E137204
36MW1038C	36MW1038C-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	91.5	0.01	0.004	0.01	µg/L		PB-E177703
36MW1039A	36MW1039A-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	250.95	ND	0.0022	0.01	µg/L	U	PB-E136102
36MW1039A	36MW1039A-	3/20/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	250.95	ND	0.004	0.01	µg/L	U	PB-E180001
36MW1039B	36MW1039B-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	191.5	0.102	0.0022	0.01	µg/L		PB-E136103
36MW1039B	36MW1039B-	3/20/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	191.5	0.074	0.004	0.01	µg/L		PB-E180002
36MW1039C	36MW1039C-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	141.44	0.216	0.0022	0.01	µg/L		PB-E136104
36MW1039C	36MW1039C-	3/20/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	141.44	0.183	0.004	0.01	µg/L		PB-E180003
36MW1040A	36MW1040A-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	216.12	1.06	0.011	0.05	µg/L		PB-E136401
36MW1040A	36MW1040A-	3/21/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	216.12	0.957	0.02	0.05	µg/L		PB-E181504
36MW1040B	36MW1040B-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	130.9	ND	0.0022	0.01	µg/L	U	PB-E136402
36MW1040B	36MW1040B-	3/21/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	130.9	ND	0.004	0.01	µg/L	U	PB-E181505
36MW1041A	36MW1041A-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	221.5	13.5	0.22	1	µg/L		PB-E136302
36MW1041A	36MW1041A-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	221.5	10.9	0.2	0.5	µg/L		PB-E177704
36MW1041B	36MW1041B-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	152.15	2.22	0.022	0.1	µg/L		PB-E136303
36MW1041B	36MW1041B-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	152.15	2.05	0.04	0.1	µg/L		PB-E177705
36MW1041C	36MW1041C-	12/3/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	132.25	1.01	0.011	0.05	µg/L		PB-E136304
36MW1041C	36MW1041C-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	132.25	1.06	0.02	0.05	µg/L		PB-E177706
36MW1042A	36MW1042A-	12/9/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	222.36	ND	0.0022	0.01	µg/L	U	PB-E139801
36MW1042A	36MW1042A-FD	12/9/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WG	222.36	ND	0.0022	0.01	µg/L	U	PB-E139802
36MW1042B	36MW1042B-	12/9/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	181.5	ND	0.0022	0.01	µg/L	U	PB-E139803
36MW1043A	36MW1043A-	12/10/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	252.38	1.12	0.022	0.1	µg/L		PB-E141503
36MW1043A	36MW1043A-	3/24/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	252.38	1.19	0.02	0.05	µg/L		PB-E181805
36MW1043B	36MW1043B-	12/10/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	162.4	0.747	0.011	0.05	µg/L		PB-E141504
36MW1043B	36MW1043B-	3/28/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	162.4	1.36	0.04	0.1	µg/L		PB-E183802
36PZ1001	36PZ1001-	11/8/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-J001501
36PZ1001	36PZ1001-	11/25/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-J002307
36PZ1001	36PZ1001-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-E143703
36PZ1002A	36PZ1002A-	11/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	127.5	ND	0.0022	0.01	µg/L	U	PB-J001302
36PZ1002A	36PZ1002A-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	127.5	ND	0.0022	0.01	µg/L	U	PB-J002501
36PZ1002A	36PZ1002A-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	127.5	ND	0.0022	0.01	µg/L	U	PB-E144601
36PZ1002B	36PZ1002B-	11/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-J001303
36PZ1002B	36PZ1002B-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-J002502
36PZ1002B	36PZ1002B-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-E144602

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36PZ1003	36PZ1003-	11/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-J001701
36PZ1003	36PZ1003-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-J002403
36PZ1003	36PZ1003-	12/18/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.0022	0.01	µg/L	U	PB-E147603
36PZ1003	36PZ1003-	1/27/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	0.116	0.0022	0.01	µg/L		PB-J004503
36PZ1003	36PZ1003-	3/26/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	4.5	ND	0.004	0.01	µg/L	U	PB-E182706
36PZ1010	36PZ1010-	12/12/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	27.5	ND	0.0022	0.01	µg/L	U	PB-E143304
36PZ1010	36PZ1010-	3/26/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WG	27.5	ND	0.004	0.01	µg/L	U	PB-E182707
36SW0001	36SW0001-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001801
36SW0001	36SW0001-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J002901
36SW0001	36SW0001-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003201
36SW0001	36SW0001-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003601
36SW0001	36SW0001-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003801
36SW0001	36SW0001-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-E182401
36SW0003	36SW0003-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001808
36SW0003	36SW0003-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J002908
36SW0003	36SW0003-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003208
36SW0003	36SW0003-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003608
36SW0003	36SW0003-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003807
36SW0003	36SW0003-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-E182407
36SW0007	36SW0007-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001907
36SW0007	36SW0007-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003007
36SW0007	36SW0007-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003307
36SW0007	36SW0007-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003706
36SW0007	36SW0007-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003906
36SW0007	36SW0007-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-E182507
36SW0010	36SW0010-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001905
36SW0010	36SW0010-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003005
36SW0010	36SW0010-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003305
36SW0010	36SW0010-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003704
36SW0010	36SW0010-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003904
36SW0010	36SW0010-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-E182506
36SW0015	36SW0015-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001908
36SW0015	36SW0015-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003008
36SW0015	36SW0015-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003308
36SW0015	36SW0015-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003707
36SW0015	36SW0015-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J004002
36SW0015	36SW0015-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-E182508
36SW0019	36SW0019-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.034	0.0022	0.01	µg/L		PB-J001802
36SW0019	36SW0019-FD	11/14/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	0.034	0.0022	0.01	µg/L		PB-J001803
36SW0019	36SW0019-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.022	0.0022	0.01	µg/L		PB-J002902
36SW0019	36SW0019-FD	11/27/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	0.022	0.0022	0.01	µg/L		PB-J002903
36SW0019	36SW0019-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.03	0.0022	0.01	µg/L		PB-J003202

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36SW0019	36SW0019-FD	12/16/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	0.03	0.0022	0.01	µg/L		PB-J003203
36SW0019	36SW0019-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.023	0.0022	0.01	µg/L		PB-J003602
36SW0019	36SW0019-FD	1/2/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	0.02	0.0022	0.01	µg/L		PB-J003603
36SW0036	36SW0036-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001806
36SW0036	36SW0036-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J002906
36SW0036	36SW0036-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003206
36SW0036	36SW0036-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003606
36SW0036	36SW0036-FD	1/17/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003804
36SW0036	36SW0036-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003805
36SW0036	36SW0036-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-E182405
36SW0036	36SW0036-FD	3/25/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-E182402
36SW0200	36SW0200-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.008	0.0022	0.01	µg/L	J	PB-J001807
36SW0200	36SW0200-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.007	0.0022	0.01	µg/L	J	PB-J002907
36SW0200	36SW0200-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.014	0.0022	0.01	µg/L		PB-J003207
36SW0200	36SW0200-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.01	0.0022	0.01	µg/L		PB-J003607
36SW0200	36SW0200-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.004	0.0022	0.01	µg/L	J	PB-J003806
36SW0200	36SW0200-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.035	0.004	0.01	µg/L		PB-E182406
36SW0201	36SW0201-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.009	0.0022	0.01	µg/L	J	PB-J001809
36SW0201	36SW0201-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.009	0.0022	0.01	µg/L	J	PB-J002909
36SW0201	36SW0201-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.014	0.0022	0.01	µg/L		PB-J003209
36SW0201	36SW0201-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.012	0.0022	0.01	µg/L		PB-J003609
36SW0201	36SW0201-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.017	0.0022	0.01	µg/L		PB-J003808
36SW0201	36SW0201-FD	1/17/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	0.017	0.0022	0.01	µg/L		PB-J003809
36SW0201	36SW0201-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.04	0.004	0.01	µg/L		PB-E182501
36SW0201	36SW0201-FD	3/25/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	0.04	0.004	0.01	µg/L		PB-E182502
36SW0221	36SW0221-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001906
36SW0221	36SW0221-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003006
36SW0221	36SW0221-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003306
36SW0221	36SW0221-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003705
36SW0221	36SW0221-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003905
36SW0221	36SW0221-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-J005301
36SW0300	36SW0300-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001903
36SW0300	36SW0300-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003003
36SW0300	36SW0300-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003903
36SW0300	36SW0300-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.005	0.004	0.01	µg/L	J	PB-E182504
36SW0301	36SW0301-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001904
36SW0301	36SW0301-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003004
36SW0301	36SW0301-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.007	0.0022	0.01	µg/L	J	PB-J003304
36SW0301	36SW0301-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.008	0.0022	0.01	µg/L	J	PB-J003703
36SW0301	36SW0301-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J004001
36SW0301	36SW0301-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.015	0.004	0.01	µg/L		PB-E182505
36SW0302	36SW0302-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J001902

Appendix A-1
Analytical Laboratory Results, November 2002-March 2003
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Location	Sample ID	Date	Method	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual	Control No.
36SW0302	36SW0302-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003002
36SW0302	36SW0302-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003302
36SW0302	36SW0302-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003702
36SW0302	36SW0302-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003902
36SW0302	36SW0302-	3/14/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.004	0.01	µg/L	U	PB-J005302
36SW0303	36SW0303-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.012	0.0022	0.01	µg/L		PB-J001901
36SW0303	36SW0303-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.009	0.0022	0.01	µg/L	J	PB-J003001
36SW0303	36SW0303-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.012	0.0022	0.01	µg/L		PB-J003301
36SW0303	36SW0303-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.01	0.0022	0.01	µg/L		PB-J003701
36SW0303	36SW0303-	1/17/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.01	0.0022	0.01	µg/L		PB-J003901
36SW0303	36SW0303-	3/25/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.033	0.004	0.01	µg/L		PB-E182503
36SW4188	36SW4188-	11/14/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.034	0.0022	0.01	µg/L		PB-J001804
36SW4188	36SW4188-FD	11/14/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	0.031	0.0022	0.01	µg/L		PB-J001805
36SW4188	36SW4188-	11/27/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J002904
36SW4188	36SW4188-FD	11/27/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J002905
36SW4188	36SW4188-	12/16/02	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003204
36SW4188	36SW4188-FD	12/16/02	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	ND	0.0022	0.01	µg/L	U	PB-J003205
36SW4188	36SW4188-	1/2/03	E504	N1	1,2-DIBROMOETHANE (EDB)	WS	0	0.023	0.0022	0.01	µg/L		PB-J003604
36SW4188	36SW4188-FD	1/2/03	E504	FD1	1,2-DIBROMOETHANE (EDB)	WS	0	0.023	0.0022	0.01	µg/L		PB-J003605

APPENDIX A-2

CH2M HILL Analytical Laboratory Results: April 2003

Appendix A-2
Analytical Laboratory Results, April 2003
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Location	Sample ID	Date	Test	Type	Analyte	Matrix	Depth	Result	DL	RL	Units	Qual
36SW0001	CHPO00001-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	ND	0.004	0.01	µg/L	U
36SW0001	CHPO10001-M1103	4/24/2003	E504	FD1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	ND	0.004	0.01	µg/L	U
36SW0003	CHPO00002-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	ND	0.004	0.01	µg/L	U
36SW0007	CHPO00003-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	ND	0.004	0.01	µg/L	U
36SW0010	CHPO00004-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	ND	0.004	0.01	µg/L	U
36SW0019	CHPO00005-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	0.04	0.004	0.01	µg/L	
36SW0036	CHPO00006-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	ND	0.004	0.01	µg/L	U
36SW0200	CHPO00007-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	0.029	0.004	0.01	µg/L	
36SW0201	CHPO00008-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	0.032	0.004	0.01	µg/L	
36SW0221	CHPO00009-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	ND	0.004	0.01	µg/L	U
36SW0301	CHPO00011-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	0.041	0.004	0.01	µg/L	
36SW0302	CHPO00012-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	ND	0.004	0.01	µg/L	U
36SW0303	CHPO00013-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	0.016	0.004	0.01	µg/L	
36SW4188	CHPO00014-M1103	4/24/2003	E504	N1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	0.021	0.004	0.01	µg/L	
36SW4188	CHPO10014-M1103	4/24/2003	E504	FD1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	WG	0	0.022	0.004	0.01	µg/L	

Data Source: AFCEE, 10 October 2003, MMR-AFCEE Data Warehouse

Notes:

DL = detection limit

ND = nondetect

RL = reporting limit

WG = groundwater

µg/L = micrograms per liter

APPENDIX B

Data Summary Reports

[Appendix B-1 Jacobs Data Summary Report](#)

[Appendix B-2 CH2M HILL Data Summary Report](#)

APPENDIX B-1

Jacobs Data Summary Report

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ACRONYMS AND ABBREVIATIONS

AFCEE	Air Force Center for Environmental Excellence
COC	chain-of-custody
CS	chemical spill
DQO	data quality objective
EB	equipment blank
EDB	ethylene dibromide
EPA	U. S. Environmental Protection Agency
FD	field duplicate
FS-1	fuel spill-1
IDL	instrument detection limit
IS	internal standard
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
Loc ID	location identification
MDL	method detection limit
MMR	Massachusetts Military Reservation
MS	matrix spike
MSD	matrix spike duplicate
QC	quality control
QPP	<i>Quality Program Plan</i>
RF	response factor
RL	reporting limit
RPD	relative percent difference
SOP	standard operating procedure

SPEIM	system performance and ecological impact area monitoring
SVTU	Severn Trent Laboratories, University Park, Illinois
SVTW	Severn Trent Laboratories, Westfield, Massachusetts (on-site laboratory)
TB	trip blank
VOC	volatile organic compound

1.0 SAMPLE COLLECTION

Jacobs collected 192 groundwater samples from monitoring wells, 66 groundwater samples from shallow extraction wells, and 84 surface water samples to obtain sufficient data to meet the system performance and ecological impact monitoring (SPEIM) objectives for the Fuel Spill-1 (FS-1) groundwater treatment system, and to ensure that ethylene dibromide (EDB) was not reentering the Quashnet bog area after the treatment facility was destroyed by a fire in October 2002. Samples were collected between 6 November 2002 and 28 March 2003. Samples were submitted to Severn Trent Laboratories (SVTU) in University Park, Illinois and Severn Trent Laboratories (SVTW) of Westfield, Massachusetts (the on-site laboratory) for analyses. Quality control (QC) samples were also collected and submitted for analysis at the frequency indicated in the Massachusetts Military Reservation (MMR) *Quality Program Plan* (QPP) (AFCEE 2000) and included field duplicate (FD) samples, equipment blank (EB) samples, trip blanks (TB) samples (volatile organic compound [VOC] analyses only), and samples collected for matrix spike/matrix spike duplicate (MS/MSD) analyses, and/or laboratory replicate and MS analyses.

Sample locations and analyses are summarized in Section 2.0.

2.0 SAMPLE IDENTIFICATION

Table 2-1 lists the samples and associated field QC samples that were collected and submitted for analysis during this sampling event. Each unique Jacobs chain-of-custody (COC) control number is cross-referenced with location identification (Loc ID), sample number, date sampled, and the analyses performed on each sample. Data completeness (Loc IDs and requested analyses) is verified against the COC forms during the data review process. The MMR data management group maintains all COC forms in project files.

3.0 LABORATORY ANALYSES

Groundwater samples were analyzed by SVTU for total metals by EPA method ILM04.0 and by SVTW for EDB by EPA method E504.1 and VOCs by EPA method SW846/8260B. Surface water samples were analyzed by SVTW for EDB by EPA method E504.1. Specific analyte lists for VOCs and total metals are provided in Appendix 3-A of the MMR QPP (AFCEE 2000).

4.0 DATA VALIDATION

All data are reviewed in accordance with MMR project-specific data review guidelines, defined in the MMR technical procedure Tech-055, Analytical Chemistry Data Review (AFCEE 2000). Tier II validation is performed, at a minimum, for all samples included in this data set. Confirmation of all positive results, including compound identification, and periodic checks of raw data for calculation and transcription errors are also included in the review process.

The following qualifiers are applied to the data during the review process:

- U – The analyte was not detected at the specified detection limit.
- J – The analyte was detected, and the reported concentration is an estimated value.
- UJ – The analyte was not detected, and the non-detect value is estimated due to QC noncompliance.
- R – The analyte value was rejected, and the result is unusable.

Method-specific qualifiers and other laboratory-specific qualifiers used to designate noncompliant values were either accepted or replaced with one of the data validation qualifiers. Data validation qualifiers were entered into the database from which the results of this sampling event were reported.

5.0 PRECISION, ACCURACY, REPRESENTATIVENESS, COMPLETENESS, AND COMPARABILITY

Data quality is assessed in terms of precision, accuracy, representativeness, completeness, and comparability. The goals set for each of these parameters are referred to as data

quality objectives (DQOs). Actual sample and QC results are compared to project DQOs to determine whether quality objectives were met for the sampling event.

5.1 PRECISION

Precision is defined as the degree to which two or more measurements are in agreement. Precision is measured by comparing duplicate sample results and is expressed as the relative percent difference (RPD) between native and FD samples results, native and laboratory replicate samples results, MS and MSD recoveries, and/or laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries.

5.1.1 Field Precision

FD samples were collected by taking two sequential aliquots of the same water sample, and submitting the samples to the laboratory for analysis as two separate samples. The maximum allowable RPD for aqueous samples, when the concentrations in the native sample and the associated FD sample are greater than five times the reporting limit (RL), is 30 percent. For duplicate results exceeding these criteria, the results in the native sample and the associated FD sample are qualified as estimated (coded J), indicating possible field sampling error and/or possible sample nonhomogeneity. When the concentrations in the native and the associated FD sample are less than five times the RL, and the RPD is greater than 30 percent, no qualifications are applied.

Thirty-three FD samples were collected with the groundwater samples and 12 FD samples were also collected with the surface water samples. RPD criteria were met for the groundwater FD pairs, indicating the use of good sampling techniques; qualifications were not required. FD results for all detected target analytes are presented in Table 5-1.

5.1.2 Laboratory Precision

Laboratory precision is measured by the analysis of MS/MSD samples, LCS/LCSDs (required by Jacobs when MS/MSD samples are not designated on the COC), and/or laboratory replicate samples. Precision objectives for respective analyses are listed in

Appendix 3-A of the MMR QPP (AFCEE 2000) for all methods. For MS/MSD and laboratory replicate RPD values exceeding these criteria, the result in the native sample is qualified as estimated (coded UJ or J). For LCS/LCSD RPD values exceeding the criteria, all samples in the associated batch are qualified as estimated (coded UJ or J).

RPD values for all LCS/LCSD analyses, the MS/MSD analyses for organic parameters, and the MS/laboratory replicate analyses for metals were within the acceptance criteria; qualifications were not required.

5.2 ACCURACY

Accuracy is defined as the degree to which the detected value represents the true value. Accuracy is frequently used synonymously with bias. The term bias describes the systematic or persistent error associated with a measurement process. Accuracy is assessed through the collection and analysis of blanks (field and laboratory) and other QC samples or spikes.

5.2.1 Field Accuracy

Accuracy in the field is assessed through the collection and analysis of EBs and TBs. The procedures used to collect these blanks are described in the MMR QPP (AFCEE 2000).

Contamination in blanks indicates that false positive results or results that are biased high may exist for samples associated with the affected blanks. To address this, action levels are established based on blank concentrations and compared to the sample results.

During data review, sample data are qualified as non-detect (coded U) based on EB and TB results when the analyte result in the associated sample is less than five times the result in the EB and TB (10 times for common laboratory contaminants such as methylene chloride). Additional qualifiers due to other QC nonconformances are occasionally included, changing the non-detect (coded U) qualifier to, for example, an estimated non-detect (coded UJ) qualifier.

Ten EB samples were collected with the groundwater samples. EB samples are not collected with groundwater samples collected from shallow extraction wells or with surface water samples because dedicated sampling equipment and tubing are used to collect these types of samples. TB samples were submitted with the VOC samples only. EB and TB samples were free of target analyte contamination; qualifications were not required.

5.2.2 Laboratory Accuracy

Accuracy in the laboratory is measured by a variety of means, including (1) sample holding times and preservation, (2) instrument calibration, (3) analysis of QC samples such as laboratory blanks, MSs, and LCSs, (4) internal standards (ISs), and (5) surrogate compound results. Accuracy is quantitatively measured by calculating percent recoveries for MSs, LCSs, and surrogates.

5.2.2.1 Sample Holding Times and Preservation

When samples are analyzed beyond their respective holding times, or if the laboratory receives a cooler in which the temperature exceeds six degrees Celsius, positive results are suspected to be biased low and non-detect results are suspected to be false negatives. Analytical results acquired from analyses performed after the method-specified holding times are exceeded or greatly exceeded, are rejected (coded R). If sample coolers are received at a temperature greater than six degrees Celsius, the results for these samples are qualified as estimated (coded J or UJ).

All samples collected as part of this sampling event met holding time and preservation requirements; qualifications were not required.

5.2.2.2 Instrument Calibration

Instrument calibration parameters are reviewed for conformance to method and data review criteria according to the technical procedure MMR TECH-055, Analytical Chemistry Data Review (AFCEE 2000).

Initial and continuing calibration criteria were acceptable for all analyses; qualifications were not required.

5.2.2.3 Laboratory Blanks

Laboratory blanks are prepared and/or analyzed along with each batch of field samples. Laboratory blanks are evaluated against their associated (same preparation and/or analytical batch) field samples to determine if a laboratory condition contributed to false positives or high bias in the field samples. Associated sample data are qualified in the same manner as field blanks.

Aluminum, barium, beryllium, iron and zinc were detected in one or more laboratory blank. The RLs used for these analytes are often much greater than the actual instrument detection limits (IDLs). The laboratory is required to report all results to the IDL. Thus, the blanks frequently contain low levels of analytes that fall between the IDL and RL. Associated sample data were evaluated against these blank levels. Positive results less than five times the blank levels were considered false positives and qualified as non-detect (coded U) at the reported value (Table 5-2).

Non-detect results for thallium in eight groundwater samples and two FD samples, and the result for lead in two groundwater samples were qualified as estimated (coded UJ) due to negative laboratory blank results (Table 5-3). These positive and non-detect results are potentially biased low due to baseline instability.

5.2.2.4 Matrix Spikes

Accuracy objectives (as percent recoveries) for the analytes spiked into MS/MSD samples are included in the respective methods. For MS/MSD percent recoveries exceeding these criteria, the result in the native sample is qualified as estimated (coded UJ or J). In cases where recoveries of spiked analytes are extremely low (less than 10 percent for organic analyses and less than 30 percent for metals), the result in the native sample is rejected (coded R).

Fourteen MS/MSD analyses were performed on groundwater samples for EDB and 5 MS/MSD analyses were performed on surface water samples for EDB. One MS/MSD analysis was performed on groundwater samples for VOCs and total metals. MS/MSD percent recoveries for all analyses were within the acceptance criteria; qualifications were not required.

5.2.2.5 Laboratory Control Samples

Accuracy objectives (as percent recoveries) for analytes spiked into LCS/LCSD samples are included in the respective methods. For LCS/LCSD percent recoveries outside these criteria, the results for the samples in the preparation/extraction batch or the analytical batch associated with the noncompliant LCS/LCSD are qualified as estimated (coded UJ or J).

LCS/LCSD percent recoveries for all analyses were within the acceptance criteria; qualifications were not required.

5.2.2.6 Internal Standards

Internal standard compounds are added to samples undergoing VOC analyses for the purpose of quantitation. The IS response in each sample is compared to the calibration standard IS response. If the IS response does not meet criteria, analytes quantitated using the IS are qualified.

IS responses for all analyses were within the acceptance criteria; qualification were not required.

5.2.2.7 Surrogate Compounds

Surrogate compounds are added to each sample undergoing organic analyses to assess method performance and extraction efficiency. Accuracy objectives for surrogate compound recoveries are listed in the respective methods. If surrogate compound

recoveries do not meet the acceptance criteria, the sample results are qualified as estimated (coded UJ and J), indicating probable bias in the results.

Qualification of sample results was not required due to surrogate compound recovery results.

5.3 REPRESENTATIVENESS

Representativeness expresses the degree to which data collected for a sample accurately and precisely represent the in situ conditions of the sample. Representativeness is a qualitative parameter that is dependent upon the proper design of the sampling program and proper laboratory protocol. Sampling plans are designed to provide data representative of the areas of investigation.

Representativeness was satisfied by ensuring that the SPEIM and post-fire monitoring objectives for the FS-1 groundwater treatment system were followed, proper sampling techniques were used, proper analytical procedures were followed, and holding times of the samples were not exceeded in the laboratory.

5.4 COMPLETENESS

Completeness is a measure of the amount of valid, usable data obtained compared to the amount of data that is expected under normal conditions. Completeness can be measured in the field and in the laboratory. The goals for field and laboratory completeness are 95 percent for aqueous samples.

5.4.1 Field Completeness

Field completeness is a measure of the number of samples collected for a particular sampling event compared to the number of samples that were planned.

Planned samples could not be collected from surface water locations 36SW0019 and 36SW4188 and groundwater locations 36EW4010, 36EW4020, 36EW4137, 36EW4149,

36PZ1001, 36PZ1002A, and 36PZ1002B in January 2003 due to flooded and frozen conditions.

Location 36EW4083 could not be accessed during the March 2003 sampling event. Location 36EW4084 was substituted for this location. Additionally, samples were not collected at nine groundwater monitoring well locations during March 2003 due to weather and scheduling priority issues. One planned MS/MSD sample was not collected due to these issues. These locations were to be collected by CH2MHill in April 2003.

All other field samples and field QC samples were collected and submitted for analysis in accordance with the MMR QPP (AFCEE 2000) and the SPEIM and post-fire monitoring objectives for the FS-1 groundwater treatment system.

5.4.2 Laboratory Completeness

Laboratory completeness is assessed by comparing the number of samples successfully analyzed to the number submitted, and the number of valid measurements (non-rejected results) to the number of measurements expected.

All samples submitted were successfully analyzed (100 percent completeness). The completeness goal for valid measurements was met for all parameters.

Table 5-4 is a summary of the laboratory completeness assessment.

5.5 COMPARABILITY

Comparability expresses the confidence with which one data set can be compared to another. For this sampling event comparability was achieved through the use of proper sampling and analytical techniques, reporting data in standard units, and by following standard operating procedures and reporting formats. Laboratories follow established analytical methods. In addition, laboratories perform analyses and report standard target compound lists.

6.0 SENSITIVITY

Sensitivity is assessed by comparing the actual RLs reported by the laboratory to those specified in the MMR QPP (AFCEE 2000). However, RLs may be affected by numerous factors including matrix interferences, blank contamination, and sample dilutions.

If necessary, RLs were adjusted due to one or more of these factors as specified in the methods and MMR QPP (AFCEE 2000).

7.0 CORRECTIVE ACTION AND RESOLUTION

Corrective action in the laboratory may occur before, during, and after initial analyses. Conditions such as broken sample containers or low/high pH readings of preserved samples may be identified during sample log-in or just before analysis. The laboratory notifies the project chemist if conditions such as these are identified; the project chemist provides the laboratory with instructions for corrective action to address these conditions.

Conditions such as the need for dilution of samples for reanalysis when certain QC criteria are not met are identified by the laboratory according to its standard operating procedures as are corrective actions for these conditions.

Any corrective actions affecting the data from this sampling event were performed before release of the data by the laboratory. Corrective actions are documented in the laboratory's narrative accompanying the hard-copy data package.

8.0 SUMMARY

In general, the data collected during this sampling event met the established DQOs and can be considered valid for decision-making purposes. Data for specific samples were qualified as estimated (coded J or UJ) for noncompliance with established criteria. The rejected data points were not for compounds of concern in this investigation.

9.0 REFERENCES

AFCEE (Air Force Center for Environmental Excellence). 2000 (September). *Quality Program Plan*. AFC-J23-35Q85101-M3-0002. Prepared by Jacobs Engineering Group Inc. for AFCEE/MMR, Installation Restoration Program, Otis Air National Guard Base, MA.

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals	Laboratory	Control Number
36MW0131A	36MW0131A-	N1	WG	11/06/02		X		SVTW	PB-J000801
36MW0131B	36MW0131B-	N1	WG	11/06/02		X		SVTW	PB-J000802
36MW0131B	36MW0131B-FD	FD1	WG	11/06/02		X		SVTW	PB-J000803
36MW0131C	36MW0131C-	N1	WG	11/06/02		X		SVTW	PB-J000804
36MW0132A	36MW0132A-	N1	WG	11/06/02		X		SVTW	PB-J000702
36MW0132B	36MW0132B-	N1	WG	11/06/02		X		SVTW	PB-J000703
36MW0132C	36MW0132C-	N1	WG	11/06/02		X		SVTW	PB-J000704
36MW0133	36MW0133-	N1	WG	11/06/02		X		SVTW	PB-J001001
36MW1014A	36MW1014A-	N1	WG	11/06/02		X		SVTW	PB-J001002
36MW1014A	36MW1014A-FD	FD1	WG	11/06/02		X		SVTW	PB-J001003
36MW1014B	36MW1014B-	N1	WG	11/06/02		X		SVTW	PB-J001004
FIELDQC	36MW0132A-EB	EB	WQ	11/06/02		X		SVTW	PB-J000701
36EW4010	36EW4010-	N1	WG	11/07/02		X		SVTW	PB-J000501
36EW4020	36EW4020-	N1	WG	11/07/02		X		SVTW	PB-J000502
36EW4035	36EW4035-	N1	WG	11/07/02		X		SVTW	PB-J000503
36EW4035	36EW4035-FD	FD1	WG	11/07/02		X		SVTW	PB-J000504
36EW4046	36EW4046-	N1	WG	11/07/02		X		SVTW	PB-J000505
36EW4054	36EW4054-	N1	WG	11/07/02		X		SVTW	PB-J000506
36EW4065	36EW4065-	N1	WG	11/07/02		X		SVTW	PB-J000507
36EW4074	36EW4074-	N1	WG	11/07/02		X		SVTW	PB-J000601
36EW4090	36EW4090-	N1	WG	11/07/02		X		SVTW	PB-J000603
36EW4100	36EW4100-	N1	WG	11/07/02		X		SVTW	PB-J000604
36EW4132	36EW4132-	N1	WG	11/07/02		X		SVTW	PB-J000605
36EW4135	36EW4135-	N1	WG	11/07/02		X		SVTW	PB-J000606
36EW4137	36EW4137-	N1	WG	11/07/02		X		SVTW	PB-J001101
36EW4137	36EW4137-FD	FD1	WG	11/07/02		X		SVTW	PB-J001102
36EW4149	36EW4149-	N1	WG	11/07/02		X		SVTW	PB-J001103
36MW0140	36MW0140-	N1	WG	11/07/02		X		SVTW	PB-J001201
36MW0140	36MW0140-FD	FD1	WG	11/07/02		X		SVTW	PB-J001202
36MW1003A	36MW1003A-	N1	WG	11/07/02		X		SVTW	PB-J001203
36MW1010B	36MW1010B-	N1	WG	11/07/02		X		SVTW	PB-J001204
36MW0135	36MW0135-	N1	WG	11/08/02		X		SVTW	PB-J001401
36MW0136	36MW0136-	N1	WG	11/08/02		X		SVTW	PB-J001402
36MW1001A	36MW1001A-	N1	WG	11/08/02		X		SVTW	PB-J000901
36MW1001B	36MW1001B-	N1	WG	11/08/02		X		SVTW	PB-J000902
36PZ1001	36PZ1001-	N1	WG	11/08/02		X		SVTW	PB-J001501
36EW4082	36EW4082-	N1	WG	11/12/02		X		SVTW	PB-J001601
36MW1012B	36MW1012B-	N1	WG	11/12/02		X		SVTW	PB-J001301
36PZ1002A	36PZ1002A-	N1	WG	11/12/02		X		SVTW	PB-J001302
36PZ1002B	36PZ1002B-	N1	WG	11/12/02		X		SVTW	PB-J001303
36PZ1003	36PZ1003-	N1	WG	11/12/02		X		SVTW	PB-J001701
36SW0001	36SW0001-	N1	WS	11/14/02		X		SVTW	PB-J001801
36SW0003	36SW0003-	N1	WS	11/14/02		X		SVTW	PB-J001808
36SW0007	36SW0007-	N1	WS	11/14/02		X		SVTW	PB-J001907
36SW0010	36SW0010-	N1	WS	11/14/02		X		SVTW	PB-J001905
36SW0015	36SW0015-	N1	WS	11/14/02		X		SVTW	PB-J001908

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals	Laboratory	Control Number
36SW0019	36SW0019-	N1	WS	11/14/02		X		SVTW	PB-J001802
36SW0019	36SW0019-FD	FD1	WS	11/14/02		X		SVTW	PB-J001803
36SW0036	36SW0036-	N1	WS	11/14/02		X		SVTW	PB-J001806
36SW0200	36SW0200-	N1	WS	11/14/02		X		SVTW	PB-J001807
36SW0201	36SW0201-	N1	WS	11/14/02		X		SVTW	PB-J001809
36SW0221	36SW0221-	N1	WS	11/14/02		X		SVTW	PB-J001906
36SW0300	36SW0300-	N1	WS	11/14/02		X		SVTW	PB-J001903
36SW0301	36SW0301-	N1	WS	11/14/02		X		SVTW	PB-J001904
36SW0302	36SW0302-	N1	WS	11/14/02		X		SVTW	PB-J001902
36SW0303	36SW0303-	N1	WS	11/14/02		X		SVTW	PB-J001901
36SW4188	36SW4188-	N1	WS	11/14/02		X		SVTW	PB-J001804
36SW4188	36SW4188-FD	FD1	WS	11/14/02		X		SVTW	PB-J001805
36MW0131A	36MW0131A-	N1	WG	11/22/02		X		SVTW	PB-J002001
36MW0131B	36MW0131B-	N1	WG	11/22/02		X		SVTW	PB-J002002
36MW0131B	36MW0131B-FD	FD1	WG	11/22/02		X		SVTW	PB-J002003
36MW0131C	36MW0131C-	N1	WG	11/22/02		X		SVTW	PB-J002004
36MW0132A	36MW0132A-	N1	WG	11/22/02		X		SVTW	PB-J002101
36MW0132B	36MW0132B-	N1	WG	11/22/02		X		SVTW	PB-J002102
36MW0132C	36MW0132C-	N1	WG	11/22/02		X		SVTW	PB-J002103
36MW0133	36MW0133-	N1	WG	11/22/02		X		SVTW	PB-J002104
36MW0135	36MW0135-	N1	WG	11/25/02		X		SVTW	PB-J002302
36MW0140	36MW0140-	N1	WG	11/25/02		X		SVTW	PB-J002303
36MW0140	36MW0140-FD	FD1	WG	11/25/02		X		SVTW	PB-J002304
36MW1001A	36MW1001A-	N1	WG	11/25/02		X		SVTW	PB-J002305
36MW1001B	36MW1001B-	N1	WG	11/25/02		X		SVTW	PB-J002306
36MW1010B	36MW1010B-	N1	WG	11/25/02		X		SVTW	PB-J002201
36MW1012B	36MW1012B-	N1	WG	11/25/02		X		SVTW	PB-J002202
36MW1014A	36MW1014A-	N1	WG	11/25/02		X		SVTW	PB-J002203
36MW1014A	36MW1014A-FD	FD1	WG	11/25/02		X		SVTW	PB-J002204
36MW1014B	36MW1014B-	N1	WG	11/25/02		X		SVTW	PB-J002205
36PZ1001	36PZ1001-	N1	WG	11/25/02		X		SVTW	PB-J002307
FIELDQC	36MW0135-EB	EB	WQ	11/25/02		X		SVTW	PB-J002301
36EW4010	36EW4010-	N1	WG	11/26/02		X		SVTW	PB-J002601
36EW4020	36EW4020-	N1	WG	11/26/02		X		SVTW	PB-J002602
36EW4035	36EW4035-	N1	WG	11/26/02		X		SVTW	PB-J002603
36EW4035	36EW4035-FD	FD1	WG	11/26/02		X		SVTW	PB-J002604
36EW4046	36EW4046-	N1	WG	11/26/02		X		SVTW	PB-J002605
36EW4054	36EW4054-	N1	WG	11/26/02		X		SVTW	PB-J002606
36EW4065	36EW4065-	N1	WG	11/26/02		X		SVTW	PB-J002607
36EW4074	36EW4074-	N1	WG	11/26/02		X		SVTW	PB-J002608
36EW4082	36EW4082-	N1	WG	11/26/02		X		SVTW	PB-J002701
36EW4090	36EW4090-	N1	WG	11/26/02		X		SVTW	PB-J002702
36EW4100	36EW4100-	N1	WG	11/26/02		X		SVTW	PB-J002703
36EW4132	36EW4132-	N1	WG	11/26/02		X		SVTW	PB-J002704
36EW4135	36EW4135-	N1	WG	11/26/02		X		SVTW	PB-J002705
36EW4137	36EW4137-	N1	WG	11/26/02		X		SVTW	PB-J002706
36EW4137	36EW4137-FD	FD1	WG	11/26/02		X		SVTW	PB-J002707
36EW4149	36EW4149-	N1	WG	11/26/02		X		SVTW	PB-J002708
36MW0136	36MW0136-	N1	WG	11/27/02		X		SVTW	PB-J002801

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals	Laboratory	Control Number
36MW1003A	36MW1003A-	N1	WG	11/27/02		X		SVTW	PB-J002402
36PZ1002A	36PZ1002A-	N1	WG	11/27/02		X		SVTW	PB-J002501
36PZ1002B	36PZ1002B-	N1	WG	11/27/02		X		SVTW	PB-J002502
36PZ1003	36PZ1003-	N1	WG	11/27/02		X		SVTW	PB-J002403
36SW0001	36SW0001-	N1	WS	11/27/02		X		SVTW	PB-J002901
36SW0003	36SW0003-	N1	WS	11/27/02		X		SVTW	PB-J002908
36SW0007	36SW0007-	N1	WS	11/27/02		X		SVTW	PB-J003007
36SW0010	36SW0010-	N1	WS	11/27/02		X		SVTW	PB-J003005
36SW0015	36SW0015-	N1	WS	11/27/02		X		SVTW	PB-J003008
36SW0019	36SW0019-	N1	WS	11/27/02		X		SVTW	PB-J002902
36SW0019	36SW0019-FD	FD1	WS	11/27/02		X		SVTW	PB-J002903
36SW0036	36SW0036-	N1	WS	11/27/02		X		SVTW	PB-J002906
36SW0200	36SW0200-	N1	WS	11/27/02		X		SVTW	PB-J002907
36SW0201	36SW0201-	N1	WS	11/27/02		X		SVTW	PB-J002909
36SW0221	36SW0221-	N1	WS	11/27/02		X		SVTW	PB-J003006
36SW0300	36SW0300-	N1	WS	11/27/02		X		SVTW	PB-J003003
36SW0301	36SW0301-	N1	WS	11/27/02		X		SVTW	PB-J003004
36SW0302	36SW0302-	N1	WS	11/27/02		X		SVTW	PB-J003002
36SW0303	36SW0303-	N1	WS	11/27/02		X		SVTW	PB-J003001
36SW4188	36SW4188-	N1	WS	11/27/02		X		SVTW	PB-J002904
36SW4188	36SW4188-FD	FD1	WS	11/27/02		X		SVTW	PB-J002905
36MW1036A	36MW1036A-	N1	WG	12/03/02		X		SVTW	PB-E136001
36MW1036B	36MW1036B-	N1	WG	12/03/02		X		SVTW	PB-E136002
36MW1036C	36MW1036C-	N1	WG	12/03/02		X		SVTW	PB-E136003
36MW1039A	36MW1039A-	N1	WG	12/03/02		X		SVTW	PB-E136102
36MW1039B	36MW1039B-	N1	WG	12/03/02		X		SVTW	PB-E136103
36MW1039C	36MW1039C-	N1	WG	12/03/02		X		SVTW	PB-E136104
36MW1040A	36MW1040A-	N1	WG	12/03/02		X		SVTW	PB-E136401
36MW1040B	36MW1040B-	N1	WG	12/03/02		X		SVTW	PB-E136402
36MW1041A	36MW1041A-	N1	WG	12/03/02		X		SVTW	PB-E136302
36MW1041B	36MW1041B-	N1	WG	12/03/02		X		SVTW	PB-E136303
36MW1041C	36MW1041C-	N1	WG	12/03/02		X		SVTW	PB-E136304
FIELDQC	36MW1039A-EB	EB	WQ	12/03/02		X		SVTW	PB-E136101
FIELDQC	36MW1041A-EB	EB	WQ	12/03/02		X		SVTW	PB-E136301
00MW0552A	00MW0552A-	N1	WG	12/04/02		X		SVTW	PB-E137001
00MW0552B	00MW0552B-	N1	WG	12/04/02		X		SVTW	PB-E137002
36MW0141	36MW0141-	N1	WG	12/04/02		X		SVTW	PB-E137003
36MW0503A	36MW0503A-	N1	WG	12/04/02		X		SVTW	PB-E137102
36MW0503B	36MW0503B-	N1	WG	12/04/02		X		SVTW	PB-E137103
36MW0503C	36MW0503C-	N1	WG	12/04/02		X		SVTW	PB-E137104
36MW1013C	36MW1013C-	N1	WG	12/04/02		X		SVTW	PB-E136901
36MW1013D	36MW1013D-	N1	WG	12/04/02		X		SVTW	PB-E136902
36MW1013E	36MW1013E-	N1	WG	12/04/02		X		SVTW	PB-E136903
36MW1038A	36MW1038A-	N1	WG	12/04/02		X		SVTW	PB-E137201
36MW1038B	36MW1038B-	N1	WG	12/04/02		X		SVTW	PB-E137202
36MW1038B	36MW1038B-FD	FD1	WG	12/04/02		X		SVTW	PB-E137203
36MW1038C	36MW1038C-	N1	WG	12/04/02		X		SVTW	PB-E137204
FIELDQC	36MW0503A-EB	EB	WQ	12/04/02		X		SVTW	PB-E137101
36MW1011A	36MW1011A-	N1	WG	12/05/02		X		SVTW	PB-E137801

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals	Laboratory	Control Number
36MW1011B	36MW1011B-	N1	WG	12/05/02		X		SVTW	PB-E137802
36MW1014A	36MW1014A-	N1	WG	12/06/02		X		SVTW	PB-E138101
36MW1014B	36MW1014B-	N1	WG	12/06/02		X		SVTW	PB-E138102
36MW0501	36MW0501-	N1	WG	12/09/02		X		SVTW	PB-E138203
36MW1042A	36MW1042A-	N1	WG	12/09/02		X		SVTW	PB-E139801
36MW1042A	36MW1042A-FD	FD1	WG	12/09/02		X		SVTW	PB-E139802
36MW1042B	36MW1042B-	N1	WG	12/09/02		X		SVTW	PB-E139803
36MW0137	36MW0137-	N1	WG	12/10/02		X		SVTW	PB-E141501
36MW0139	36MW0139-	N1	WG	12/10/02		X		SVTW	PB-E141502
36MW1013A	36MW1013A-	N1	WG	12/10/02		X		SVTW	PB-E141602
36MW1013B	36MW1013B-	N1	WG	12/10/02		X		SVTW	PB-E141603
36MW1043A	36MW1043A-	N1	WG	12/10/02		X		SVTW	PB-E141503
36MW1043B	36MW1043B-	N1	WG	12/10/02		X		SVTW	PB-E141504
FIELDQC	36MW1013A-EB	EB	WQ	12/10/02		X		SVTW	PB-E141601
36MW1035	36MW1035-	N1	WG	12/11/02		X		SVTW	PB-E143001
36MW0131A	36MW0131A-	N1	WG	12/12/02		X		SVTW	PB-E143201
36MW0131A	36MW0131A-FD	FD1	WG	12/12/02		X		SVTW	PB-E143202
36MW0131B	36MW0131B-	N1	WG	12/12/02		X		SVTW	PB-E143203
36MW0131C	36MW0131C-	N1	WG	12/12/02		X		SVTW	PB-E143204
36MW0143	36MW0143-	N1	WG	12/12/02		X		SVTW	PB-E143101
36MW1010A	36MW1010A-	N1	WG	12/12/02		X		SVTW	PB-E143301
36MW1010B	36MW1010B-	N1	WG	12/12/02		X		SVTW	PB-E143302
36MW1010C	36MW1010C-	N1	WG	12/12/02		X		SVTW	PB-E143303
36MW1012A	36MW1012A-	N1	WG	12/12/02		X		SVTW	PB-E143102
36MW1012A	36MW1012A-FD	FD1	WG	12/12/02		X		SVTW	PB-E143103
36MW1012B	36MW1012B-	N1	WG	12/12/02		X		SVTW	PB-E143104
36MW1012C	36MW1012C-	N1	WG	12/12/02		X		SVTW	PB-E143105
36PZ1010	36PZ1010-	N1	WG	12/12/02		X		SVTW	PB-E143304
36EW4010	36EW4010-	N1	WG	12/13/02		X		SVTW	PB-E143801
36EW4020	36EW4020-	N1	WG	12/13/02		X		SVTW	PB-E143802
36EW4035	36EW4035-	N1	WG	12/13/02		X		SVTW	PB-E143803
36EW4035	36EW4035-FD	FD1	WG	12/13/02		X		SVTW	PB-E143804
36EW4046	36EW4046-	N1	WG	12/13/02		X		SVTW	PB-E143805
36EW4054	36EW4054-	N1	WG	12/13/02		X		SVTW	PB-E143806
36EW4065	36EW4065-	N1	WG	12/13/02		X		SVTW	PB-E143807
36MW0132A	36MW0132A-	N1	WG	12/13/02		X		SVTW	PB-E143501
36MW0132B	36MW0132B-	N1	WG	12/13/02		X		SVTW	PB-E143502
36MW0132C	36MW0132C-	N1	WG	12/13/02		X		SVTW	PB-E143503
36EW4090	36EW4090-	N1	WG	12/13/02		X		SVTW	PB-J003101
36EW4100	36EW4100-	N1	WG	12/13/02		X		SVTW	PB-J003102
36EW4135	36EW4135-	N1	WG	12/13/02		X		SVTW	PB-J003104
36EW4137	36EW4137-	N1	WG	12/13/02		X		SVTW	PB-J003105
36EW4149	36EW4149-	N1	WG	12/13/02		X		SVTW	PB-J003106
36MW0002	36MW0002-	N1	WG	12/16/02	X			SVTW	PB-E144701
36MW0002	36MW0002-FD	FD1	WG	12/16/02	X			SVTW	PB-E144702
36MW0002	36MW0002-	N1	WG	12/16/02			X	SVTU	PB-E144801
36MW0002	36MW0002-FD	FD1	WG	12/16/02			X	SVTU	PB-E144802
36MW0007	36MW0007-	N1	WG	12/16/02	X			SVTW	PB-E144703
36MW0007	36MW0007-	N1	WG	12/16/02			X	SVTU	PB-E144803

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals	Control Number
36MW0010A	36MW0010A-	N1	WG	12/16/02	X		SVTW	PB-E144704
36MW0010A	36MW0010A-	N1	WG	12/16/02		X	SVTU	PB-E144804
36MW0015	36MW0015-	N1	WG	12/16/02	X		SVTW	PB-E144705
36MW0015	36MW0015-	N1	WG	12/16/02		X	SVTU	PB-E144805
36MW0133	36MW0133-	N1	WG	12/16/02		X	SVTW	PB-E144501
36MW0133	36MW0133-FD	FD1	WG	12/16/02		X	SVTW	PB-E144502
36MW0135	36MW0135-	N1	WG	12/16/02		X	SVTW	PB-E144503
36MW0136	36MW0136-	N1	WG	12/16/02		X	SVTW	PB-E144301
36MW0140	36MW0140-	N1	WG	12/16/02		X	SVTW	PB-E144401
36MW0140	36MW0140-FD	FD1	WG	12/16/02		X	SVTW	PB-E144402
36MW1001A	36MW1001A-	N1	WG	12/16/02		X	SVTW	PB-E143701
36MW1001B	36MW1001B-	N1	WG	12/16/02		X	SVTW	PB-E143702
36PZ1001	36PZ1001-	N1	WG	12/16/02		X	SVTW	PB-E143703
36PZ1002A	36PZ1002A-	N1	WG	12/16/02		X	SVTW	PB-E144601
36PZ1002B	36PZ1002B-	N1	WG	12/16/02		X	SVTW	PB-E144602
FIELDQC	35Z15632-TB	TB	WQ	12/16/02	X		SVTW	PB-E144001
36SW0001	36SW0001-	N1	WS	12/16/02		X	SVTW	PB-J003201
36SW0003	36SW0003-	N1	WS	12/16/02		X	SVTW	PB-J003208
36SW0007	36SW0007-	N1	WS	12/16/02		X	SVTW	PB-J003307
36SW0010	36SW0010-	N1	WS	12/16/02		X	SVTW	PB-J003305
36SW0015	36SW0015-	N1	WS	12/16/02		X	SVTW	PB-J003308
36SW0019	36SW0019-	N1	WS	12/16/02		X	SVTW	PB-J003202
36SW0019	36SW0019-FD	FD1	WS	12/16/02		X	SVTW	PB-J003203
36SW0036	36SW0036-	N1	WS	12/16/02		X	SVTW	PB-J003206
36SW0200	36SW0200-	N1	WS	12/16/02		X	SVTW	PB-J003207
36SW0201	36SW0201-	N1	WS	12/16/02		X	SVTW	PB-J003209
36SW0221	36SW0221-	N1	WS	12/16/02		X	SVTW	PB-J003306
36SW0301	36SW0301-	N1	WS	12/16/02		X	SVTW	PB-J003304
36SW0302	36SW0302-	N1	WS	12/16/02		X	SVTW	PB-J003302
36SW0303	36SW0303-	N1	WS	12/16/02		X	SVTW	PB-J003301
36SW4188	36SW4188-	N1	WS	12/16/02		X	SVTW	PB-J003204
36SW4188	36SW4188-FD	FD1	WS	12/16/02		X	SVTW	PB-J003205
36EW4074	36EW4074-	N1	WG	12/18/02		X	SVTW	PB-E147601
36EW4084	36EW4084-	N1	WG	12/18/02		X	SVTW	PB-E147602
36PZ1003	36PZ1003-	N1	WG	12/18/02		X	SVTW	PB-E147603
36EW4132	36EW4132-	N1	WG	12/18/02		X	SVTW	PB-J003401
36MW1003A	36MW1003A-	N1	WG	12/18/02		X	SVTW	PB-J003402
36MW1003A	36MW1003A-FD	FD1	WG	12/18/02		X	SVTW	PB-J003403
36MW0504	36MW0504-	N1	WG	12/30/02		X	SVTW	PB-E151101
36MW0603A	36MW0603A-	N1	WG	12/30/02		X	SVTW	PB-E151102
36MW0603B	36MW0603B-	N1	WG	12/30/02		X	SVTW	PB-E151103
36MW0604	36MW0604-	N1	WG	12/30/02		X	SVTW	PB-E151104
36SW0001	36SW0001-	N1	WS	01/02/03		X	SVTW	PB-J003601
36SW0003	36SW0003-	N1	WS	01/02/03		X	SVTW	PB-J003608
36SW0007	36SW0007-	N1	WS	01/02/03		X	SVTW	PB-J003706
36SW0010	36SW0010-	N1	WS	01/02/03		X	SVTW	PB-J003704
36SW0015	36SW0015-	N1	WS	01/02/03		X	SVTW	PB-J003707
36SW0019	36SW0019-	N1	WS	01/02/03		X	SVTW	PB-J003602
36SW0019	36SW0019-FD	FD1	WS	01/02/03		X	SVTW	PB-J003603
36SW0036	36SW0036-	N1	WS	01/02/03		X	SVTW	PB-J003606

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals	Control Number
36SW0200	36SW0200-	N1	WS	01/02/03		X		SVTW PB-J003607
36SW0201	36SW0201-	N1	WS	01/02/03		X		SVTW PB-J003609
36SW0221	36SW0221-	N1	WS	01/02/03		X		SVTW PB-J003705
36SW0301	36SW0301-	N1	WS	01/02/03		X		SVTW PB-J003703
36SW0302	36SW0302-	N1	WS	01/02/03		X		SVTW PB-J003702
36SW0303	36SW0303-	N1	WS	01/02/03		X		SVTW PB-J003701
36SW4188	36SW4188-	N1	WS	01/02/03		X		SVTW PB-J003604
36SW4188	36SW4188-FD	FD1	WS	01/02/03		X		SVTW PB-J003605
36SW0001	36SW0001-	N1	WS	01/17/03		X		SVTW PB-J003801
36SW0003	36SW0003-	N1	WS	01/17/03		X		SVTW PB-J003807
36SW0007	36SW0007-	N1	WS	01/17/03		X		SVTW PB-J003906
36SW0010	36SW0010-	N1	WS	01/17/03		X		SVTW PB-J003904
36SW0015	36SW0015-	N1	WS	01/17/03		X		SVTW PB-J004002
36SW0036	36SW0036-FD	FD1	WS	01/17/03		X		SVTW PB-J003804
36SW0036	36SW0036-	N1	WS	01/17/03		X		SVTW PB-J003805
36SW0200	36SW0200-	N1	WS	01/17/03		X		SVTW PB-J003806
36SW0201	36SW0201-	N1	WS	01/17/03		X		SVTW PB-J003808
36SW0201	36SW0201-FD	FD1	WS	01/17/03		X		SVTW PB-J003809
36SW0221	36SW0221-	N1	WS	01/17/03		X		SVTW PB-J003905
36SW0300	36SW0300-	N1	WS	01/17/03		X		SVTW PB-J003903
36SW0301	36SW0301-	N1	WS	01/17/03		X		SVTW PB-J004001
36SW0302	36SW0302-	N1	WS	01/17/03		X		SVTW PB-J003902
36SW0303	36SW0303-	N1	WS	01/17/03		X		SVTW PB-J003901
36MW0131A	36MW0131A-	N1	WG	01/21/03		X		SVTW PB-J004101
36MW0131B	36MW0131B-	N1	WG	01/21/03		X		SVTW PB-J004102
36MW0131C	36MW0131C-	N1	WG	01/21/03		X		SVTW PB-J004103
36MW0131C	36MW0131C-FD	FD1	WG	01/21/03		X		SVTW PB-J004104
36MW0136	36MW0136-	N1	WG	01/22/03		X		SVTW PB-J004202
36MW1014A	36MW1014A-	N1	WG	01/22/03		X		SVTW PB-J004203
36MW1014B	36MW1014B-	N1	WG	01/22/03		X		SVTW PB-J004204
FIELDQC	36MW0136-EB	EB	WQ	01/22/03		X		SVTW PB-J004201
36MW0132A	36MW0132A-	N1	WG	01/23/03		X		SVTW PB-J004301
36MW0132B	36MW0132B-	N1	WG	01/23/03		X		SVTW PB-J004302
36MW0132C	36MW0132C-	N1	WG	01/23/03		X		SVTW PB-J004303
36MW1001A	36MW1001A-	N1	WG	01/24/03		X		SVTW PB-J004401
36MW1001B	36MW1001B-	N1	WG	01/24/03		X		SVTW PB-J004402
36EW4046	36EW4046-	N1	WG	01/27/03		X		SVTW PB-J004601
36EW4054	36EW4054-	N1	WG	01/27/03		X		SVTW PB-J004602
36EW4054	36EW4054-FD	FD1	WG	01/27/03		X		SVTW PB-J004603
36MW1003A	36MW1003A-	N1	WG	01/27/03		X		SVTW PB-J004501
36MW1010B	36MW1010B-	N1	WG	01/27/03		X		SVTW PB-J004502
36MW1012B	36MW1012B-	N1	WG	01/27/03		X		SVTW PB-J004604
36PZ1003	36PZ1003-	N1	WG	01/27/03		X		SVTW PB-J004503
36EW4035	36EW4035-	N1	WG	01/28/03		X		SVTW PB-J004703
36EW4065	36EW4065-	N1	WG	01/28/03		X		SVTW PB-J005001
36EW4074	36EW4074-	N1	WG	01/28/03		X		SVTW PB-J004901
36EW4082	36EW4082-	N1	WG	01/28/03		X		SVTW PB-J005002
36EW4090	36EW4090-	N1	WG	01/28/03		X		SVTW PB-J005003
36EW4100	36EW4100-	N1	WG	01/28/03		X		SVTW PB-J005101
36EW4132	36EW4132-	N1	WG	01/28/03		X		SVTW PB-J005102

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals	Control Number
36EW4132	36EW4132-FD	FD1	WG	01/28/03		X		SVTW PB-J005103
36EW4135	36EW4135-	N1	WG	01/28/03		X		SVTW PB-J005104
36MW0133	36MW0133-	N1	WG	01/29/03		X		SVTW PB-J004801
36MW0140	36MW0140-	N1	WG	01/29/03		X		SVTW PB-J004804
36MW0135	36MW0135-	N1	WG	01/30/03		X		SVTW PB-J005201
36MW0135	36MW0135-FD	FD1	WG	01/30/03		X		SVTW PB-J005202
36MW0131A	36MW0131A-	N1	WG	03/14/03		X		SVTW PB-E177601
36MW0131A	36MW0131A-FD	FD1	WG	03/14/03		X		SVTW PB-E177602
36MW0131B	36MW0131B-	N1	WG	03/14/03		X		SVTW PB-E177603
36MW0131C	36MW0131C-	N1	WG	03/14/03		X		SVTW PB-E177604
36MW0132A	36MW0132A-	N1	WG	03/14/03		X		SVTW PB-E177802
36MW0132B	36MW0132B-	N1	WG	03/14/03		X		SVTW PB-E177803
36MW0132C	36MW0132C-	N1	WG	03/14/03		X		SVTW PB-E177804
36MW0503A	36MW0503A-	N1	WG	03/14/03		X		SVTW PB-E177605
36MW0503B	36MW0503B-	N1	WG	03/14/03		X		SVTW PB-E177606
36MW0503C	36MW0503C-	N1	WG	03/14/03		X		SVTW PB-E177607
36MW0503C	36MW0503C-FD	FD1	WG	03/14/03		X		SVTW PB-E177608
36MW1012A	36MW1012A-	N1	WG	03/14/03		X		SVTW PB-E177805
36MW1012B	36MW1012B-	N1	WG	03/14/03		X		SVTW PB-E177806
36MW1012B	36MW1012B-FD	FD1	WG	03/14/03		X		SVTW PB-E177807
36MW1012C	36MW1012C-	N1	WG	03/14/03		X		SVTW PB-E177808
36MW1038A	36MW1038A-	N1	WG	03/14/03		X		SVTW PB-E177701
36MW1038B	36MW1038B-	N1	WG	03/14/03		X		SVTW PB-E177702
36MW1038C	36MW1038C-	N1	WG	03/14/03		X		SVTW PB-E177703
36MW1041A	36MW1041A-	N1	WG	03/14/03		X		SVTW PB-E177704
36MW1041B	36MW1041B-	N1	WG	03/14/03		X		SVTW PB-E177705
36MW1041C	36MW1041C-	N1	WG	03/14/03		X		SVTW PB-E177706
FIELDQC	36MW0132A-EB	EB	WQ	03/14/03		X		SVTW PB-E177801
36SW0221	36SW0221-	N1	WS	03/14/03		X		SVTW PB-J005301
36SW0302	36SW0302-	N1	WS	03/14/03		X		SVTW PB-J005302
36MW1013A	36MW1013A-	N1	WG	03/17/03		X		SVTW PB-E178102
36MW1013B	36MW1013B-	N1	WG	03/17/03		X		SVTW PB-E178103
36MW1013C	36MW1013C-	N1	WG	03/17/03		X		SVTW PB-E178104
36MW1013D	36MW1013D-	N1	WG	03/17/03		X		SVTW PB-E178105
36MW1013E	36MW1013E-	N1	WG	03/17/03		X		SVTW PB-E178106
FIELDQC	36MW1013A-EB	EB	WQ	03/17/03		X		SVTW PB-E178101
36MW1010A	36MW1010A-	N1	WG	03/18/03		X		SVTW PB-E177901
36MW1010A	36MW1010A-FD	FD1	WG	03/18/03		X		SVTW PB-E177902
36MW1010B	36MW1010B-	N1	WG	03/18/03		X		SVTW PB-E177903
36MW1010C	36MW1010C-	N1	WG	03/18/03		X		SVTW PB-E177904
36MW0002	36MW0002-	N1	WG	03/20/03	X			SVTW PB-E180101
36MW0002	36MW0002-FD	FD1	WG	03/20/03	X			SVTW PB-E180102
36MW0002	36MW0002-	N1	WG	03/20/03			X	SVTU PB-E180201
36MW0002	36MW0002-FD	FD1	WG	03/20/03			X	SVTU PB-E180202
36MW0007	36MW0007-	N1	WG	03/20/03	X			SVTW PB-E180103
36MW0007	36MW0007-	N1	WG	03/20/03			X	SVTU PB-E180203
36MW0010A	36MW0010A-	N1	WG	03/20/03	X			SVTW PB-E180104
36MW0010A	36MW0010A-	N1	WG	03/20/03			X	SVTU PB-E180204
36MW0015	36MW0015-	N1	WG	03/20/03	X			SVTW PB-E180105

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals		Control Number
36MW0015	36MW0015-	N1	WG	03/20/03			X	SVTU	PB-E180205
36MW1036A	36MW1036A-	N1	WG	03/20/03		X		SVTW	PB-E178001
36MW1036B	36MW1036B-	N1	WG	03/20/03		X		SVTW	PB-E178002
36MW1036C	36MW1036C-	N1	WG	03/20/03		X		SVTW	PB-E178003
36MW1036C	36MW1036C-FD	FD1	WG	03/20/03		X		SVTW	PB-E178004
36MW1039A	36MW1039A-	N1	WG	03/20/03		X		SVTW	PB-E180001
36MW1039B	36MW1039B-	N1	WG	03/20/03		X		SVTW	PB-E180002
36MW1039C	36MW1039C-	N1	WG	03/20/03		X		SVTW	PB-E180003
FIELDQC	35Z15632-TB	TB	WQ	03/20/03	X			SVTW	PB-E179901
36MW0501	36MW0501-	N1	WG	03/21/03		X		SVTW	PB-E181501
36MW1014A	36MW1014A-	N1	WG	03/21/03		X		SVTW	PB-E181502
36MW1014B	36MW1014B-	N1	WG	03/21/03		X		SVTW	PB-E181503
36MW1040A	36MW1040A-	N1	WG	03/21/03		X		SVTW	PB-E181504
36MW1040B	36MW1040B-	N1	WG	03/21/03		X		SVTW	PB-E181505
00MW0552A	00MW0552A-	N1	WG	03/24/03		X		SVTW	PB-E181801
00MW0552B	00MW0552B-	N1	WG	03/24/03		X		SVTW	PB-E181802
36EW4010	36EW4010-	N1	WG	03/24/03		X		SVTW	PB-E181001
36EW4020	36EW4020-	N1	WG	03/24/03		X		SVTW	PB-E181002
36EW4020	36EW4020-FD	FD1	WG	03/24/03		X		SVTW	PB-E181003
36EW4035	36EW4035-	N1	WG	03/24/03		X		SVTW	PB-E181004
36EW4046	36EW4046-	N1	WG	03/24/03		X		SVTW	PB-E181005
36EW4054	36EW4054-	N1	WG	03/24/03		X		SVTW	PB-E181006
36EW4065	36EW4065-	N1	WG	03/24/03		X		SVTW	PB-E181007
36EW4074	36EW4074-	N1	WG	03/24/03		X		SVTW	PB-E181008
36EW4084	36EW4084-	N1	WG	03/24/03		X		SVTW	PB-E181101
36EW4090	36EW4090-	N1	WG	03/24/03		X		SVTW	PB-E181102
36EW4100	36EW4100-	N1	WG	03/24/03		X		SVTW	PB-E181103
36MW1011A	36MW1011A-	N1	WG	03/24/03		X		SVTW	PB-E181803
36MW1011B	36MW1011B-	N1	WG	03/24/03		X		SVTW	PB-E181804
36MW1043A	36MW1043A-	N1	WG	03/24/03		X		SVTW	PB-E181805
36EW4132	36EW4132-	N1	WG	03/25/03		X		SVTW	PB-E182302
36EW4132	36EW4132-FD	FD1	WG	03/25/03		X		SVTW	PB-E182303
36EW4135	36EW4135-	N1	WG	03/25/03		X		SVTW	PB-E182304
36EW4137	36EW4137-	N1	WG	03/25/03		X		SVTW	PB-E182305
36EW4149	36EW4149-	N1	WG	03/25/03		X		SVTW	PB-E182306
36MW0135	36MW0135-	N1	WG	03/25/03		X		SVTW	PB-E182102
36MW0136	36MW0136-	N1	WG	03/25/03		X		SVTW	PB-E182201
36MW0136	36MW0136-FD	FD1	WG	03/25/03		X		SVTW	PB-E182202
36MW0137	36MW0137-	N1	WG	03/25/03		X		SVTW	PB-E182203
36MW0140	36MW0140-	N1	WG	03/25/03		X		SVTW	PB-E182205
36MW0141	36MW0141-	N1	WG	03/25/03		X		SVTW	PB-E182206
36MW1001A	36MW1001A-	N1	WG	03/25/03		X		SVTW	PB-E182105
36MW1001B	36MW1001B-	N1	WG	03/25/03		X		SVTW	PB-E182106
36SW0001	36SW0001-	N1	WS	03/25/03		X		SVTW	PB-E182401
36SW0003	36SW0003-	N1	WS	03/25/03		X		SVTW	PB-E182407
36SW0007	36SW0007-	N1	WS	03/25/03		X		SVTW	PB-E182507
36SW0010	36SW0010-	N1	WS	03/25/03		X		SVTW	PB-E182506
36SW0015	36SW0015-	N1	WS	03/25/03		X		SVTW	PB-E182508
36SW0036	36SW0036-	N1	WS	03/25/03		X		SVTW	PB-E182405
36SW0036	36SW0036-FD	FD1	WS	03/25/03		X		SVTW	PB-E182402

Table 2-1
Sample Identification Cross-Reference and Analyses

Location	Sample Number	Sample Type	Matrix	Sample Date	VOC	EDB	Metals		Control Number
36SW0200	36SW0200-	N1	WS	03/25/03		X		SVTW	PB-E182406
36SW0201	36SW0201-	N1	WS	03/25/03		X		SVTW	PB-E182501
36SW0201	36SW0201-FD	FD1	WS	03/25/03		X		SVTW	PB-E182502
36SW0300	36SW0300-	N1	WS	03/25/03		X		SVTW	PB-E182504
36SW0301	36SW0301-	N1	WS	03/25/03		X		SVTW	PB-E182505
36SW0303	36SW0303-	N1	WS	03/25/03		X		SVTW	PB-E182503
36MW0139	36MW0139-	N1	WG	03/26/03		X		SVTW	PB-E183601
36PZ1003	36PZ1003-	N1	WG	03/26/03		X		SVTW	PB-E182706
36PZ1010	36PZ1010-	N1	WG	03/26/03		X		SVTW	PB-E182707
36MW1003A	36MW1003A-	N1	WG	03/26/03		X		SVTW	PB-J005401
36MW0133	36MW0133-	N1	WG	03/28/03		X		SVTW	PB-E183701
36MW0143	36MW0143-	N1	WG	03/28/03		X		SVTW	PB-E183102
36MW1035	36MW1035-	N1	WG	03/28/03		X		SVTW	PB-E183801
36MW1043B	36MW1043B-	N1	WG	03/28/03		X		SVTW	PB-E183802
FIELDQC	36MW0143-EB	EB	WQ	03/28/03		X		SVTW	PB-E183101

Data Source: Jacobs, 27 May 2003, Site Environmental Evaluation (SEE database)

EB = equipment blank

EDB = ethylene dibromide

FD1 = field duplicate sample

N1 = native sample

SVTU = Severn Trent Laboratories, University Park, Illinois

SVTW = Severn Trent Laboratories, Westfield, Massachusetts (the on-site laboratory)

TB = trip blank

VOC = volatile organic compound

WG = groundwater

WQ = water quality matrix

WS = surface water

Table 5-1
Field Duplicate Precision Results for Detected Analytes

Location	Analyte	Date Sampled	Native Sample Result (µg/L)	Duplicate Sample Result (µg/L)	RL (µg/L)	RPD
36EW4054	1,2-DIBROMOETHANE (EDB)	1/27/03	0.00600 J	0.00700 J	0.01	15.4
36EW4137	1,2-DIBROMOETHANE (EDB)	11/7/02	0.063	0.064	0.01	1.6
36EW4137	1,2-DIBROMOETHANE (EDB)	11/26/02	0.724	0.749	0.05	3.4
36MW0002	ARSENIC (TOTAL)	12/16/02	7.00 J	6.60 J	10	5.9
36MW0002	BARIUM (TOTAL)	12/16/02	43.3 J	34.4 J	200	22.9
36MW0002	CALCIUM (TOTAL)	12/16/02	2900 J	2840 J	5000	2.1
36MW0002	COBALT (TOTAL)	12/16/02	3.40 J	ND	50	NC
36MW0002	IRON (TOTAL)	12/16/02	11900	11800	100	0.8
36MW0002	LEAD (TOTAL)	12/16/02	164	159	3	3.1
36MW0002	MAGNESIUM (TOTAL)	12/16/02	865 J	827 J	5000	4.5
36MW0002	MANGANESE (TOTAL)	12/16/02	370	365	15	1.4
36MW0002	NICKEL (TOTAL)	12/16/02	2.20 J	ND	40	NC

Table 5-1
Field Duplicate Precision Results for Detected Analytes

Location	Analyte	Date Sampled	Native Sample Result (µg/L)	Duplicate Sample Result (µg/L)	RL (µg/L)	RPD
36MW0002	POTASSIUM (TOTAL)	12/16/02	1190 J	1100 J	5000	7.9
36MW0002	SODIUM (TOTAL)	12/16/02	4930 J	4770 J	5000	3.3
36MW0002	ZINC (TOTAL)	12/16/02	26.6	17.7 J	20	40.2
36MW0002	ETHYLBENZENE	12/16/02	64.6	66.9	1	3.5
36MW0002	M,P-XYLENE (SUM OF ISOMERS)	12/16/02	81.6	87.1	2	6.5
36MW0002	O-XYLENE (1,2-DIMETHYLBENZENE)	12/16/02	19.6	20.3	1	3.5
36MW0002	TETRACHLOROETHENE(PCE)	12/16/02	0.200 J	0.230 J	1	14
36MW0002	TOLUENE	12/16/02	3.47	3.53	1	1.7
36MW0002	ARSENIC (TOTAL)	3/20/03	4.70 J	4.50 J	10	4.3
36MW0002	BARIUM (TOTAL)	3/20/03	25.6 J	23.0 J	200	10.7
36MW0002	CALCIUM (TOTAL)	3/20/03	2640 J	2660 J	5000	0.8
36MW0002	CHROMIUM (TOTAL)	3/20/03	1.40 J	ND	10	NC
36MW0002	COBALT (TOTAL)	3/20/03	0.950 J	ND	50	NC
36MW0002	IRON (TOTAL)	3/20/03	12800	13200	100	3.1
36MW0002	LEAD (TOTAL)	3/20/03	168	170	3	1.2
36MW0002	MAGNESIUM (TOTAL)	3/20/03	957 J	965 J	5000	0.8
36MW0002	MANGANESE (TOTAL)	3/20/03	375	388	15	3.4
36MW0002	NICKEL (TOTAL)	3/20/03	1.60 J	ND	40	NC
36MW0002	POTASSIUM (TOTAL)	3/20/03	998 J	1020 J	5000	2.2
36MW0002	SODIUM (TOTAL)	3/20/03	4070 J	4250 J	5000	4.3
36MW0002	ETHYLBENZENE	3/20/03	181	206	5	12.9
36MW0002	M,P-XYLENE (SUM OF ISOMERS)	3/20/03	341	351	10	2.9
36MW0002	O-XYLENE (1,2-DIMETHYLBENZENE)	3/20/03	155	167	5	7.5
36MW0002	TOLUENE	3/20/03	108	115	5	6.3
36MW0131A	1,2-DIBROMOETHANE (EDB)	12/12/02	7.13	7.02	0.4	1.6
36MW0131A	1,2-DIBROMOETHANE (EDB)	3/14/03	7.38	7.23	0.4	2.1
36MW0131B	1,2-DIBROMOETHANE (EDB)	11/6/02	0.06	0.06	0.01	0
36MW0131B	1,2-DIBROMOETHANE (EDB)	11/22/02	0.057	0.062	0.01	8.4
36MW0136	1,2-DIBROMOETHANE (EDB)	3/25/03	0.086	0.083	0.01	3.6
36MW0503C	1,2-DIBROMOETHANE (EDB)	3/14/03	0.013	0.012	0.01	8
36MW1010A	1,2-DIBROMOETHANE (EDB)	3/18/03	0.065	0.068	0.01	4.5
36MW1012B	1,2-DIBROMOETHANE (EDB)	3/14/03	0.028	0.029	0.01	3.5
36MW1036C	1,2-DIBROMOETHANE (EDB)	3/20/03	0.031	0.032	0.01	3.2
36MW1038B	1,2-DIBROMOETHANE (EDB)	12/4/02	22.9	20.8	1	9.6
36SW0019	1,2-DIBROMOETHANE (EDB)	11/14/02	0.034	0.034	0.01	0
36SW0019	1,2-DIBROMOETHANE (EDB)	11/27/02	0.022	0.022	0.01	0
36SW0019	1,2-DIBROMOETHANE (EDB)	12/16/02	0.03	0.03	0.01	0
36SW0019	1,2-DIBROMOETHANE (EDB)	1/2/03	0.023	0.02	0.01	14
36SW0201	1,2-DIBROMOETHANE (EDB)	1/17/03	0.017	0.017	0.01	0
36SW0201	1,2-DIBROMOETHANE (EDB)	3/25/03	0.04	0.04	0.01	0
36SW4188	1,2-DIBROMOETHANE (EDB)	11/14/02	0.034	0.031	0.01	9.2
36SW4188	1,2-DIBROMOETHANE (EDB)	1/2/03	0.023	0.023	0.01	0

Data Source: Jacobs, 27 May 2003, Site Environmental Evaluation (SEE database)

J = estimated value

ND = non-detect result

RPD = relative percent difference

NC = not calculated

RL = reporting limit

µg/L = micrograms per liter

Table 5-2
Laboratory Blank Sample Qualification

Location	Sample ID	Sample Date	Analyte	Qualifier	Matrix
36MW0002	36MW0002-	12/16/02	BERYLLIUM (TOTAL)	U	WG
36MW0002	36MW0002-	03/20/03	ZINC (TOTAL)	U	WG
36MW0002	36MW0002-FD	03/20/03	ZINC (TOTAL)	U	WG
36MW0007	36MW0007-	12/16/02	ALUMINUM (TOTAL)	U	WG
36MW0007	36MW0007-	12/16/02	ZINC (TOTAL)	U	WG
36MW0007	36MW0007-	03/20/03	ALUMINUM (TOTAL)	U	WG
36MW0007	36MW0007-	03/20/03	ZINC (TOTAL)	U	WG
36MW0010A	36MW0010A-	12/16/02	ALUMINUM (TOTAL)	U	WG
36MW0010A	36MW0010A-	12/16/02	IRON (TOTAL)	U	WG
36MW0010A	36MW0010A-	12/16/02	ZINC (TOTAL)	U	WG
36MW0010A	36MW0010A-	03/20/03	ZINC (TOTAL)	U	WG
36MW0015	36MW0015-	03/20/03	BARIUM (TOTAL)	U	WG
36MW0015	36MW0015-	03/20/03	ZINC (TOTAL)	U	WG

Data Source: Jacobs, 27 May 2003, Site Environmental Evaluation (SEE database)

U = non-detect result

WG = groundwater

Table 5-3
Negative Laboratory Blank Sample Qualification

Location	Sample ID	Sample Date	Analyte	Qualifier	Matrix
36MW0002	36MW0002-	12/16/02	THALLIUM (TOTAL)	UJ	WG
36MW0002	36MW0002-FD	12/16/02	THALLIUM (TOTAL)	UJ	WG
36MW0002	36MW0002-	03/20/03	THALLIUM (TOTAL)	UJ	WG
36MW0002	36MW0002-FD	03/20/03	THALLIUM (TOTAL)	UJ	WG
36MW0007	36MW0007-	12/16/02	THALLIUM (TOTAL)	UJ	WG
36MW0007	36MW0007-	03/20/03	THALLIUM (TOTAL)	UJ	WG
36MW0010A	36MW0010A-	12/16/02	THALLIUM (TOTAL)	UJ	WG
36MW0010A	36MW0010A-	03/20/03	LEAD (TOTAL)	UJ	WG
36MW0010A	36MW0010A-	03/20/03	THALLIUM (TOTAL)	UJ	WG
36MW0015	36MW0015-	12/16/02	THALLIUM (TOTAL)	UJ	WG
36MW0015	36MW0015-	03/20/03	LEAD (TOTAL)	UJ	WG
36MW0015	36MW0015-	03/20/03	THALLIUM (TOTAL)	UJ	WG

Data Source: Jacobs, 27 May 2003, Site Environmental Evaluation (SEE database)

UJ = estimated non-detect

WG = groundwater

Table 5-4
Laboratory Completeness

Analysis	Percent Completeness (%)
VOCs	100/100
EDB	100/100
Total Metals	100/100

Percent completeness is expressed as the number of samples successfully analyzed compared to the number submitted, and the number of valid measurements (non-rejected results) compared to the number of measurements expected, respectively.

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APPENDIX B-2

CH2M HILL Data Summary Report

INTRODUCTION

This report summarizes the results of the review of analytical data generated from the monitoring of the FS-1 site located at the Massachusetts Military Reservation (MMR). Thirteen field samples and two field duplicates were collected and analyzed for EDB by EPA method 504.1. Samples were collected on 24 April 2003. The purpose of this review is to determine if any quality control deviations affected the certainty of analytical results and that the data are of sufficient quality to meet the project objectives. The data review and assessment was performed in accordance with the MMR Quality Program Plan (QPP) (AFCEE 2000¹). The quality control (QC) elements reviewed are specified in the data analysis section presented below.

Severn Trent Laboratories (SVTW) located at the MMR in Massachusetts (on-site laboratory) performed the EPA method 504.1 analyses. The data were submitted as Sample Delivery Groups (SDG) 200750 from SVTW. QA/QC information was provided with the SDG reports.

Table 1
Analytical Parameters

Parameter	Method	Laboratory
Ethylene dibromide	EPA Method 504.1	SVTW

DATA ANALYSIS

The quality control data reviewed included method blanks, laboratory calibration information, and laboratory accuracy information. Blank contamination impacts were assessed by comparison of the relative concentration levels in method blanks and field samples. Overall analytical accuracy and precision was evaluated using laboratory

¹ AFCEE (Air Force Center for Environmental Excellence). 2000 (September). *Quality Program Plan*. AFC-J23-35Q85101-M3-0002. Prepared by Jacobs Engineering Group Inc. for AFCEE/MMR Installation Restoration Program, Otis Air National Guard Base, MA.

control sample (LCS) percent recoveries. Sample accuracy was evaluated using surrogate recoveries. Specific QC elements reviewed or assessed include:

- Hold-time and preservation
- Calibration
- Method Blanks
- Surrogates
- Internal Standards
- Laboratory Control Samples
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Chain-of-Custody
- Completeness.

Hold-Time and Preservation

All hold time criteria were met. No data qualification was required.

Calibration

All initial and continuing calibration criteria were met. No data qualification was required.

Method Blanks

Method blanks were analyzed at the required frequencies and did not contain reportable levels of target analytes. No data qualification was required.

Surrogates

All of the surrogate standards in the field and laboratory QC samples were recovered within QC limits. No data qualification was required.

Internal Standards

All of the internal in the field and laboratory QC samples were recovered within QC limits. No data qualification was required.

Laboratory Control Samples

Laboratory control samples (LCSs) were analyzed as required. All LCS results were recovered within QC limits and therefore, no data qualification was required.

Matrix Spike/Matrix Spike Duplicates

A matrix spike (MS) and matrix spike duplicate (MSD) sample was analyzed. All matrix spike results were recovered within QC limits and therefore, no data qualification was required.

Field Duplicates

Two field duplicate samples were analyzed. Relative percent differences were recovered within QC limits. No data qualification was required.

Chain-of-Custody

No anomalies were noted in the review.

Completeness

No data have been rejected, therefore completeness is 100% and the completeness goal for the project has been met.

SUMMARY AND CONCLUSIONS

The following conclusions can be drawn from the data quality evaluation process:

- The laboratory blanks were free of reportable levels of contamination indicating that laboratory sample handling procedures did not introduce uncertainty in the analytical results.

- Laboratory accuracy and precision was acceptable.
- Field precision was acceptable.
- No data were rejected during this data evaluation. The project team may use the data for decision-making without further qualification or review.

Appendix C
Table C-1
FS-1 SPEIM Modification Summary Table and Project Notes

Date Issued	Issue	Modification Made	Project Note No.
31-Jan-03	Changes to the FS-1 SPEIM Program	Identifies changes to monitoring program after fire destroyed the FS-1 treatment plant on 13 October 2002.	ENR-J23-35Z15616-P1-0004
26-Mar-03	Hydraulic Evaluation Plan for the Expanded FS-1 Remedial System	Presents the plan to evaluate the performance of the newly constructed FS-1 remedial system.	ENR-J23-35Z15616-P1-0005

Notes:

FS-1 = Fuel Spill-1

APPENDIX C

FS-1 SPEIM Modification Summary Table and Project Notes

[Modification Summary Table](#)

Project Notes:

[ENR-J23-35Z15616-P1-0004](#)

[ENR-J23-35Z15616-P1-0005](#)